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ABSTRACT

This report focuses on the results of analyses of selected issues in the area of adult basic education (ABE) using two major data bases: Participation in Adult Education survey and Adult Quality of Life studies. Issues are divided into four sections: target population and demand population, services provided, organization for delivery of services, and financing adult basic education. Each issue question is stated; then available data are brought to bear on the problem. Representative issues include the extent of the adult basic skill deficiency problem, the size and location of the target population, variation among states in terms of size of the ABE target population, characteristics of the ABE target population, the target population and the value placed on education, characteristics of the ABE demand population, special characteristics and educational needs of special subgroups, differences in participation rates of special subgroups. characteristics of persisters and dropouts, reasons for dropping out, instructional methods to improve recruitment and retention, improvement of the nature and extent of participation by the target population, and resources needed and available to reach the target population. Seven figures and 24 tables are provided. Appendixes include the Details on the Log-Linear Analysis of Participation in ABE. (YLB)

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Technical Report No. 22

Analyses of Issues in Adult Education

Darlene F. Russ-Eft
Donald H. McLaughlin

Prepared by

SAGE
STATISTICAL ANALYSIS GROUP IN EDUCATION

For the

National Center for Education Statistics

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

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TECHNICAL REPORT 22

ANALYSES OF ISSUES IN ADULT BASIC EDUCATION

Submitted to the National Center for Educational Statistics

by

Darlene F. Russ-Eft

and

Donald H. McLaughlin

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September, 1981

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INTRODUCTION

Certain basic skills are needed by American adults to function effectively in making a living and maintaining a home and family. Although a publicly supported educational system exists, a significant proportion of the population lack critical basic skills. In order to identify particular basic skill areas needing further attention, the Adult Performance Level study, a four-year investigation of adult functional competency, was undertaken (Northcutt, 1977). The study found that many people cannot cope with the demands of daily life because they cannot read or they cannot understand what they read. Furthermore, illiteracy affects the entire society, for it limits the size of the skilled workforce and leads to increases in the number of welfare recipients.

Beginning with the passage of Title 11B of the Office of Economic Opportunity Act (OEO) in 1964, the federal government provided support to adult basic education through grants provided to State Education Agencies. Support for the adult basic education (ABE) concept was broadened through the passage of the Elementary and Secondary Education Act of 1965, the Adult Basic Education Act of 1966, and Amendments to the Adult Education Act in 1968, 1970, 1974, and 1978. In 1978, for example, the statement of purpose for providing adult education opportunities was amended to include the phrase: "to enable all adults to acquire basic skills necessary to function in society.*"

Because the General Education Act, Section 403a (20 U.S.C. 1221c) mandated that the Office of Education collect and disseminate information about education in the United States, the National Center for Education Statistics (NCES) has, since the late 1960s, published data on the scope and characteristics of adult education.**

Continuing its commitment to present information on the condition of education, NCES has requested that, as part of the work of the Statistical

---

* De Sanctis (1978) provides an overview of the evolution of the ABE legislation.

** These publications include the following: Adult Basic Education Program Statistics (beginning in 1967-68); Participation in Adult Education studies (conducted in 1969, 1972, 1975, and 1978); Adult Education in Community Organizations, 1972; Adult Education in Public School Systems, 1968-69 and 1969-70; Adult Education through Home Study, 1976, and Non-credit Activities in Institutions of Higher Education (for the years ending June 1968 and 1976).

Analysis Group in Education (SAGE), a comprehensive examination be conducted of major issues in the area of adult basic education and that analyses addressing these issues be conducted using available data bases. Previous SAGE reports (Russ-Eft, Rubin, & Holmen, 1979; Russ-Eft & Rubin, 1980) discussed major issues and identified some existing data bases. The present report focuses on the results of analyses conducted on selected issues.

Data Bases

The major data base used in the preparation of this report was the survey of Participation in Adult Education (PAE). The PAE survey is conducted by the Bureau of the Census at the request of NCES as the May supplement to the Current Population Survey (CPS). This supplemental survey, titled Survey of Adult Education (CPS-643), was conducted in 1969, 1972, 1975, and 1978, and NCES reports of the survey findings are available for the survey years of 1969, 1972, and 1975 (Okes, 1974, 1976; Boaz, 1978).

The CPS samples were initially selected from the decennial census files (in 1960 and 1970) and have been updated, where possible, to reflect new housing. The sample is spread over 461 areas providing coverage in each State and the District of Columbia. Approximately 47,000 occupied households are eligible for the survey each month, and questionnaires are completed for about 45,000 of these households.*

The CPS focuses on labor-force data for the civilian noninstitutional population. In the May surveys, additional screening questions concerning adult education activities have been asked. A supplemental questionnaire was left for each participant in adult education, 17 years or older. The following table indicates the types of activities that were or were not counted as participation in adult education. (See Table 1.)

The second major data base used in this study was provided by the Adult Quality of Life studies (Flanagan, & Russ-Eft, 1975; Flanagan, 1978). These studies included nationally representative samples of 500 males and 500 females in each of three age cohorts--30-, 50-, and 70-year-olds. The studies were conducted in two phases. The sample of the 30-year-olds was selected from among Project TALENT participants (a representative sample of the population of 15-year-olds in the United States in 1960). Project TALENT began in 1960 with the administration of a two-day battery of tests

*The methodology of the CPS is described in detail in Hanson (1978) and Brooks and Bailar (1978).

Table 1

Comparison of the Participation in Adult Education Reports

1969 - 1978

Type of Adult Student	Counted as Participants in Adult Education in the Basic Tables			
	1978	1975	1972	1969
Participants in adult education, not full-time students in regular school*	Yes	Yes	Yes	Yes
Participants in adult education, also full-time students in regular school.*				
17 through 34 years of age	Yes	No**	No	No
35 years of age and over	Yes	No**	Yes	Yes
Participants in adult education, full-time status in regular school* not reported	Yes	No	***	***
Full-time students in regular school*				
17 through 34 years of age	No	No	No	No
35 years of age and over	No	No	Yes	Yes
Full-time students in occupational programs of six months or more duration	No	Yes	Yes	Yes
Full-time students in occupational programs of less than six months duration	Yes	Yes	Yes	Yes
Participants in apprenticeship, internship, and work study programs	No	***	***	***

* Schooling leading to an eighth grade certificate, a high school diploma, or a college degree.

** Except for special exhibits of population characteristics.

*** Not specified.

and inventories to a probability sample of 375,000 students (4.5% of the total population) in grades 9-12. These students were the entire student bodies of a stratified random sample of 987 senior high schools in the country, with associated junior high school enrollments of 9th graders. In areas served by 10 percent of the schools, Project TALENT also tested a special sample of all 15-year-olds who were enrolled in grades 1-8 in 1960 or had already left school in those particular school districts. For a representative sample of all 15-year-olds, both the regular TALENT files and the special sample files were used. The second phase of the Quality of Life studies involved the selection of four 500-case probability samples: 1) 48- to 52-year-old men, 2) 48- to 52-year-old women, 3) 68- to 72-year-old men, and 4) 68- to 72-year-old women. The sampling plan provided for a multistage cluster probability sample. In this sampling plan, a three-stage cluster sampling procedure was used in the Census-defined Standard Metropolitan Statistical Areas (SMSAs), with stratification in the first stage according to geographic location and population density. In non-SMSAs, a two-stage cluster sampling procedure was employed with stratification in the first stage according to geographic location and population density. All 3,000 participants received a three- to four-hour structured interview that covered such topics as education and training, leisure activities and interests (including participation in adult education), friends, health, employment history and current occupation, economic condition, and family background and relations.

Definition of the ABE Target Population

The Adult Education Act defines the target population for adult education as any individual who is 16 years of age or older and who is not required to be in school. The focus of the programs under this Act is upon instruction below the college level. The Act further defines "adult basic education" as being targeted upon "adults whose inability to speak, read, or write the English language constitutes a substantial impairment of their ability to get or retain employment commensurate with their ability." These programs should be designed to raise the level of education of these individuals to make them less likely to become dependent on others, to improve their ability to benefit from occupational training and

thus increase their opportunities for more productive and profitable employment, and to make them better able to meet their adult responsibilities (20 U.S.C. 1202). This has been interpreted in terms of a grade level (e.g., 6th grade, 8th grade, or 12th grade), although some adult educators have pointed out the limitations of grade level as an indicator of illiteracy (Freire, 1970; and Harmon, 1970).

The PAE data base being used for the analyses presented in this paper contained adequate information on each individual's current grade level but contained virtually no information that could be used to assess skill level. Therefore, it was necessary to use a grade-level interpretation, rather than a skill-level interpretation, for these analyses. The definition of the ABE target population was based on (1) the highest grade completed, and (2) any adult education participant's indication of the purpose of the course (level and credit expected), the activity type, and the course name. In particular, the following two definitions were used:

> Target Population Less than 8th (TP8): The definition focuses upon those with less than an 8th grade education. It includes adult education participants who may have completed the eighth grade while taking ABE, English grammar, or math during the 12 months prior to the May PAE survey.
>
> Target Population Less than 12th (TP12): The definition focuses upon those with less than a twelfth grade education. It includes adult education participants who may have completed the 12th grade while taking ABE, English grammar, American history, American government, math, and GED courses during the 12 months prior to the survey. The TP8 population is a subset of the TP12 population.

Definition of the ABE Demand Population

In a recent assessment of the Adult Education Act, the National Advisory Council on Adult Education (1978) defined "demand population" as adults who experience personal and social disadvantages because of an inadequate education and who actually want, demand, and are capable of using adult education. The Council further suggested the demand population, rather than the target population, may be a better method for distributing federal funding, because it might lead to an increase in the states' recruitment of their target population.

For the analyses presented in this paper, the definitions of demand population used the descriptions provided by participants in adult education in terms of the reported type of credit, the activity type, and the course name. The group was then limited according to the highest grade completed by the participant. Thus, the following two definitions resulted:

> Demand Population Less than 8th (DP8): The population consists of adult education participants who report that they received 8th grade credit (or less) for the course and that the course was ABE, English grammar, or mathematics. Only those who had completed the 8th grade or less were included.
>
> Demand Population Less than 12th (DP12): The population consists of adult education participants who report that they received 8th grade or high school credit (or less) and that the course was ABE, GED, English grammar, American History, American government, or mathematics. Only those who had completed the 12th grade or less were included. The DP8 population is a subset of the DP12 population.

The limitation of the demand populations by grade level was necessary because of apparent ambiguities in the course names used in the survey. A mathematics course taken by a college graduate is less likely to be an ABE course than a mathematics course taken by a high school dropout.

Format of the Paper

The present paper addresses those issues raised in an earlier SAGE report on adult basic education (Russ-Eft, Rubin, & Holmen, 1979) for which our data are relevant. For many issues raised in that paper, however, no adequate information exists at present. The following are the issues addressed in the present paper with an indication in parenthesis of the pages on which the discussion of each issue can be found.

- To what extent is adult basic skill deficiency a problem in the United States? (pp. 9-13)
- Is it true that the target population for ABE accounts for a third of the adult population in most major cities? (pp. 14-15)

- How much variation occurs among the states in terms of the size of the ABE target population? (pp. 16-19)

- What are the characteristics of the ABE target population in terms of ethnic background, sex, age, educational achievement, occupation, income, ability level, citizenship, welfare status, place of residence, and psychiatric condition? (pp. 20-21)

- What percentage of the target population falls into each of these three categories: (1) those who are economically secure and value education, (2) those who are beset with financial problems and family responsibilities, but who value education, and (3) those who place no value on education? (pp. 22-23)

- What are the characteristics of the ABE demand population in terms of ethnic background, sex, age, educational achievement, occupation, income, ability level, citizenship, welfare status, place of residence, and psychiatric condition? (pp. 24-25)

- What are the special characteristics and educational needs of immigrants, older adults, the handicapped, the incarcerated and institutionalized, minority groups, the unemployed, and women? (pp. 26-30)

- What differences occur in the participation rates of special subgroups? And are certain subgroups less likely than others to participate in ABE? And what are the differences between those members of the target population who enroll and those who do not? (pp. 31-44)

- How accurate are the reported differences in characteristics between those who persist and those who do not? And who drops out of ABE programs? (pp. 45-47)

- Why do people drop out of ABE programs? (pp.48-50)

- What instructional methods will improve recruitment and retention? (pp. 51-54)

- In what ways can the nature and extent of participation by adults needing basic education be improved? (p. 55)

- What resources are needed and what resources are available to reach the most disadvantaged, the poorest, the least literate, or the most alientated? (pp. 56-57)

The issue numbers refer to the sections and items designated in the Russ-Eft, Rubin, and Holmen report. Each issue question is stated, and then the available data are brought to bear on the problem. Not all of the issue questions raised in the previous report are presented here because of the lack or inadequacy of the data. However, further background information on each of the issues can be found in that report.

ISSUES AND ANALYSES

I. Target and Demand Population

Issue I.1: To what extent is adult basic skill deficiency a problem in the United States?

One method of measuring basic skill proficiency is by using statistics on the numbers of persons who have completed four years of high school. To determine whether the problem is increasing or decreasing in scope, data from different years can be compared. Table I.1.a presents the number and percentage of American adults at different educational levels for the four years of the survey. The data indicate a decrease in both the number and the percentage of adults who have completed less than four years of high school. If we assume that high school completion indicates an ability to master the basic skills, these data indicate adult basic skill deficiency is becoming less of a problem. However, the decrease across the years may be due to an artifact relating to cohort differences. Great strides have been made over the last 50 years to increase the access to a high school education to all persons. Thus, large differences exist in the educational attainment of younger and older cohorts. For example, Flanagan and Russ-Eft (1975) found that 87% of a nationally representative sample of 1,000 30-year-olds had completed a high school education, while Flanagan (1978) reported that only 45% of a nationally representative sample of 1,000 70-year-olds had completed a high school education. Thus, the difference in the educational attainment between the 1969 and the 1978 populations may be due to the 17- to 26-year-olds added to the population (who went to school in the 1960s and 1970s) and to those over 65 removed from the population (who went to school in the 1910s and 1920s). To determine whether progress had been made between 1969 and 1972, it would be necessary to examine data from specific age cohorts (e.g., 18- to 21-year-olds in 1969 with 18- to 21-year-olds in 1972 and 18- to 21-year olds in 1969 with 21- to 24-year-olds in 1972).

Table I.1.b presents the number of persons in the ABE target population for two age groups across three administrations of the survey. In addition, the table displays the percentage that those numbers comprise of the U. S. population in those age groups. In all cases, the ABE target population comprises a decreasing percentage of the total population. Thus, although Table I.1.a indicates that a third of the adult population have not completed a high school education, this percentage will decrease as more

Table I.1.a

Number (in Thousands) and Percentage of
American Adults 17 years and over at Each Educational Level

Highest Level of Education Completed	1969		1972		1975		1978	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Less than four years of high school	57,381	44.1	55,730	40.1	53,388	36.4	52,091	33.7
Four years of high school	44,680	34.3	49,679	35.8	53,755	36.7	56,847	36.8
One to three years of college	15,537	11.9	18,407	13.3	21,002	14.3	24,046	15.6
Four or more years of college	12,655	9.7	15,049	10.8	18,457	12.6	21,512	13.9
TOTAL (Adults)	130,253	100.0	138,865	100.0	146,602	100.0	154,496	100.0

Note: Data obtained from Participation in Adult Education, Final Report 1975, and unpublished tables from the 1978 Participation in Adult Education Survey.

Table I.1.b

Number (in Thousands) of American Adults in the ABE Target Population for Two Age Groups and Percentage of Total U.S. Population in those Age Ranges.

Age Groups	ABE Target Population (Less than 8th)					
	1969		1972		1975	
	Number	Percent*	Number	Percent*	Number	Percent*
25 - 34	1,131	4.5	1,150	4.6	1,187	3.9
35 - 44	2,096	9.1	1,805	7.8	1,412	6.2

	ABE Target Population (Less than 12th)					
	1969		1972		1975	
	Number	Percent*	Number	Percent*	Number	Percent*
25 - 34	7,934	31.9	7,240	29.0	5,414	17.6
35 - 44	9,783	42.3	8,526	36.9	6,214	27.3

* Total U.S. population figures obtained from Table 28 in U.S. Bureau of the Census Statistical Abstract of the United States: 1976 (97th Edition). Washington, D.C. 1976.

educated cohorts enter adulthood. Nevertheless, with 17.6% of the persons 25 to 34 years of age in the ABE target population (with less than a 12th grade education), there will continue to be a substantial percentage of the population in need of basic education for the foreseeable future.

The number of individuals enrolled in ABE programs increased slightly from 1969 to 1975, as shown in Table I.1.c. This increase occurred among individuals at relatively higher educational levels, with at least one year of high school, who are probably taking courses to obtain a high school diploma. Among those who have less than a ninth grade education, the number of participants in ABE decreased over this period.

Table I.1.c

Educational Level of ABE Participants
(Using Participant Description of Course)

Highest Level of Education Completed	1969		1972		1975	
	Number (x 1000)	Percent	Number (x 1000)	Percent	Number (x 1000)	Percent
Less than 9th grade	164	30.2	116	20.4	102	18.4
One to three years of high school	133	24.4	132	23.0	146	26.4
Four years of high school	136	24.9	202	35.2	170	30.7
One or more years of postsecondary	111	20.5	123	21.4	136	24.5
TOTAL in ABE	545	100.0	573	100.0	554	100.0

Note: Any individual who took several ABE courses was only counted once in these tables.

Issue I.3: Is it true that the target population for ABE accounts for a third of the adult population in most major cities?

The response to this question depends upon the definition of the ABE target population. When the target population is defined as those individuals with less than an eighth grade education, no more than 12% of the population in major metropolitan areas was comprised of the ABE target population in 1975 (Table I.3). The metropolitan areas with populations containing the highest percent of such individuals include Miami (12%), Baltimore (9%), New York (8%), Pittsburgh (7%), Atlanta (7%), and Houston (6%). When the target population is defined as those with less than a high school diploma, between 12% and 30% of the population in major metropolitan areas is comprised of the ABE target population. The metropolitan areas containing the highest percentage of residents who are in the target population include Baltimore (30%), Pittsburgh (28.5%), Miami (27%), and Philadelphia (26.5%). These numbers compare with the nationwide estimate of 36.4% in Table I.1.a. Therefore, the ABE target population is not concentrated in large cities. Nevertheless, the competition for jobs in large cities and the complexity of metropolitan life makes the lack of these skills particularly critical for individuals living in large cities.

Table I.3

Total Population and ABE Target Population in 1975
for Major Metropolitan Areas, in Thousands

Area	Total Population* as of July 1, 1975	Frequency		Percentage	
		Less than 8th	Less than high school	Less than 8th	Less than high school
New York, N.Y.	9,561	729	2,431	8%	25.4%
Los Angeles	6,987	438	1,490	6%	21.3%
Chicago	7,015	356	1,616	5%	23.0%
Philadelphia	4,807	273	1,272	6%	26.5%
Detroit	4,424	242	1,102	6%	24.9%
S.F.-Oakland	3,140	157	608	5%	19.4%
Washington, D.C.	3,022	110	511	4%	16.9%
Boston	3,914	83	494	2%	12.6%
Long Island	Not reported	83	422	-	-
Pittsburgh	2,322	153	662	7%	28.5%
St. Louis	2,367	108	540	5%	22.8%
Baltimore	2,148	197	647	9%	30.1%
Cleveland	1,967	99	478	5%	24.3%
Houston	2,286	147	488	6%	21.3%
Newark	1,999	85	357	4%	17.9%
Minneapolis	2,011	26	292	1%	14.5%
Dallas	2,527	114	341	5%	13.5%
Seattle	1,407	24	240	2%	17.1%
Anaheim	1,700	58	275	3%	16.2%
Milwaukee	1,409	66	288	5%	20.4%
Atlanta	1,790	113	325	7%	18.2%
Cincinnati	1,381	40	310	3%	22.4%
Paterson Area	Not reported	89	341	-	-
San Diego	1,585	45	246	3%	15.5%
Buffalo	1,327	57	324	4%	24.4%
Miami	1,439	168	392	12%	27.2%
Kansas City	1,290	44	262	3%	20.3%
Denver	1,413	37	254	3%	18.0%
San Bernardino	1,226	43	247	4%	20.1%
Indianapolis	1,139	27	253	2%	22.2%
San Jose	1,174	58	183	5%	15.6%
New Orleans	1,094	120	275	11%	25.1%
Tampa	1,348	71	331	5%	24.6%
Portland	1,083	32	207	3%	19.1%
Other SMSA	Not reported	3,734	14,916	-	-

* From Table 21 in U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th Edition). Washington, D.C., 1977.

Issue I.4: How much variation occurs among the states in terms of the size of the ABE target population?

Recent data on the ABE target population are not available for each individual state, but they are available by region: northeast, north central, south, and west. More individuals in the ABE target population, when defined as those with less than an eighth grade education, are located in the southern region of the United States than in any other region (Table I.4.a. In 1975, almost half (49%) of this population was located in the South. For the ABE target population defined as those with less than a high school education, a similar pattern emerges, but the variation among the regions is less pronounced. Thus, in 1975, the South contained 36% of the target population.

We did not have exact total populations with which to compare the ABE target population to calculate rates of occurrence. However, rough estimates can be obtained by comparing 1975 PAE data with 1975 Census data on 25-year olds and over. According to this estimate, the south experiences the most severe impact of adult lack of education.

Some earlier data are available from the Statistical Abstract of the United States for 1978. Table I.4.b indicates the illiteracy rates and the educational levels among the population in the separate states. These data confirm the above findings with respect to the ABE target population--that the South contains the largest percentage. A continuum of ABE densities exists across the states. When defined as persons with less than high school completion, the densities range from about 47% (e.g., Kentucky, Mississippi, and West Virginia) to about 20% (e.g., Alaska, Colorado, and Utah).

Table I.4.a.

Number (in Thousands) and Percentage of the Total Adult Population and the ABE Target Population by Region of the Country

Region	1970 Census Data* (Persons 25 years old and over)		Less than 8th			Less than high school		
	Number	Percent	Number	Percent	Percent of Total Population**	Number	Percent	Percent of Total Population**
Northeast	27,685	25.2	2,787	20.1	7.6	12,386	23.1	33.6
North Central	30,292	27.6	2,463	17.8	6.1	13,937	26.0	34.5
South	33,331	30.3	6,800	49.0	15.3	19,558	36.5	44.0
West	18,591	16.9	1,820	13.1	7.3	7,717	14.4	31.1
TOTAL	109,899	100.0	13,870	100.0	9.5	53,398	100.0	36.6

* From Table 223 in U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th Edition). Washington, D.C., 1977. Numbers in thousands.

** The total population was estimated as 4/3 of the 1970 counts of persons 25 or older, to account for inclusion of 17-24 year-olds and for population growth.

TABLE I. 4. b.

Illiteracy Rates and Years of School Completed By State

	Percent Illiterate			*Percent Completing Years of School: 1976		
	1950	1960	1970	0-8 years	0-11 years	H.S. years
New England						
Maine	2.0	1.3	.7	15.5	16.6	67.8
New Hampshire	2.0	1.4	.7	14.6	14.9	70.3
Vermont	1.7	1.1	.6	16.6	13.4	69.7
Massachusetts	2.8	2.2	1.1	13.6	14.1	72.3
Rhode Island	3.1	2.4	1.3	19.8	18.3	61.7
Connecticut	3.1	2.2	1.1	15.3	14.4	70.3
Middle Atlantic						
New York	3.5	2.9	1.4	16.7	17.0	66.2
New Jersey	2.9	2.2	1.1	16.9	16.7	66.4
Pennsylvania	2.7	2.0	1.0	18.3	16.9	64.8
East No. Central						
Ohio	1.9	1.5	.8	14.9	17.4	67.7
Indiana	1.7	1.2	.7	15.7	17.3	67.0
Illinois	2.3	1.8	.9	17.8	16.1	66.1
Michigan	2.0	1.6	.9	13.3	18.0	68.6
Wisconsin	1.7	1.2	.7	16.5	13.2	70.3
West No. Central						
Minnesota	1.5	1.0	.6	15.8	11.8	72.4
Iowa	.9	.7	.5	15.7	12.0	72.3
Missouri	2.1	1.7	.8	21.1	14.9	64.1
North Dakota	2.3	1.4	.8	22.3	10.3	67.6
South Dakota	1.5	.9	.5	20.8	10.3	68.9
Nebraska	1.2	.9	.6	14.4	11.3	74.3
Kansas	1.3	.9	.6	14.1	12.7	73.1
South Atlantic						
Delaware	2.7	1.9	.9	13.5	16.8	69.5
Maryland	2.7	1.9	.9	14.9	15.7	69.3
Dist. Columbia	1.8	1.9	1.1	17.3	17.1	65.7
Virginia	4.9	3.4	1.4	18.9	16.9	64.2
West Virginia	3.5	2.7	1.4	29.7	16.9	53.3
North Carolina	5.5	4.0	1.8	25.2	19.5	55.3
South Carolina	7.9	5.5	2.3	23.5	19.4	57.1
Georgia	6.9	4.5	2.0	24.0	17.3	58.7
Florida	3.9	2.6	1.3	18.5	16.7	64.8

	Percent Illiterate			*Percent Completing Years of School: 1976		
	1950	1960	1970	0-8 years	9-11 years	H.S. Grad.
East So. Central						
Kentucky	4.3	3.3	1.6	29.5	17.2	53.3
Tennessee	4.7	3.5	1.7	27.7	17.4	54.9
Alabama	6.2	4.2	2.1	24.5	20.0	55.5
Mississippi	7.1	4.9	2.4	27.6	20.1	52.3
West So. Central						
Arkansas	5.0	3.6	1.9	25.0	18.8	56.2
Louisiana	9.8	6.3	2.8	25.7	16.1	58.3
Oklahoma	2.5	1.9	1.1	18.4	16.0	65.6
Texas	5.4	4.1	2.2	18.7	16.8	64.5
Mountain						
Montana	1.8	1.0	.6	14.2	13.2	72.5
Idaho	1.3	.8	.6	12.6	15.9	71.5
Wyoming	1.7	.9	.6	11.0	14.1	75.3
Colorado	2.0	1.3	.7	10.0	12.0	78.1
New Mexico	6.6	4.0	2.2	18.8	15.5	65.7
Arizona	6.2	3.8	1.8	13.4	14.0	72.5
Utah	1.4	.9	.6	6.2	13.6	80.2
Nevada	2.2	1.1	.5	9.5	14.8	75.7
Pacific						
Washington	1.3	.9	.6	10.5	13.2	76.3
Oregon	1.2	.8	.6	11.0	13.4	75.5
California	2.2	1.8	1.1	12.7	13.3	74.0
Alaska	6.3	3.0	1.5	9.3	11.1	79.6
Hawaii	8.4	5.0	1.9	16.3	10.8	73.0

* Totals may not equal 100% due to rounding.

Issue I.9: What are the characteristics of the ABE target population in terms of ethnic background, sex, age, educational achievement, occupation, income, ability level, citizenship, welfare status, place of residence, and psychiatric condition?

Data are not available for ability level, citizenship, welfare status, and psychiatric condition. Breakdowns of the population by the remaining variables can be found in Table I.9. The table provides a comparison of the characteristics of the ABE target population with those of the entire U.S. population. This comparison reveals the following:

1. A larger percentage of blacks than expected by chance are in the ABE target population, particularly when defined as those with less than an 8th grade education.

2. Differences in terms of sex are minimal.

3. A larger percentage of older persons, especially among those aged 45 years or older, are in the ABE target population (that is, they have less than a 12th grade education).

4. The majority of employed persons in the ABE target population are in service and blue-collar occupations, with smaller percentages in white-collar positions.

5. The ABE target population is particularly concentrated in the lowest income groups, with income under $6,000.

6. The majority of the ABE target population lives in urban areas; however, the ABE target population comprises a larger percentage of the total population in rural areas.

Table I.9

Frequency Counts of Several Variables of the Adult U.S. Population and the 1975 ABE Target Population

Variable	U.S. Population*		Less than 8th Grade			Less than High School		
	Frequency	Percent	Frequency	Percent	Percent of Population	Frequency	Percent	Percent of Population
Race	[1976: 16 years and older]							
White	138,881	88.0	10,549	76.1	7.6	44,970	83.9	32.4
Black	16,451	10.4	3,043	21.9	18.5	7,917	14.8	48.1
Other	2,593	1.6	277	2.0	10.7	710	1.3	27.4
Sex	[1976: 16 years and older]							
Male	75,492	47.8	6,998	50.5	9.3	25,601	47.8	33.9
Female	82,364	52.2	6,871	49.5	8.3	27,995	52.2	34.0
Age	[1976: ages shown below]							
17 - 19	32,146**	20.9**	193	1.4	1.9	7,436	13.9	32.3
20 - 24			407	2.9		2,951	5.5	
25 - 34	31,891	20.7	1,187	8.6	3.7	5,413	10.1	17.0
35 - 44	23,012	15.0	1,412	10.2	6.1	6,213	11.6	27.0
45 - 59	66,634**	43.3**	3,530	25.5	16.0	12,853	24.0	47.4
60+			7,142	51.5		18,735	35.0	
Highest Grade Completed	[1976: 25 years and older]							
Less than 8th Grade	13,041	11.0	13,798	99.5		13,522	25.2	
Completed 8th Grade	11,472	9.7	71	0.5		13,006	24.3	
Some High School	18,204	15.3	-	-		26,541	49.5	
Completed High School	76,130	64.1	-	-		528	1.0	
Occupation	[1975: 16 years and older]							
White Collar	42,227	49.8	323	6.2	0.8	4,830	19.1	11.4
Blue Collar	23,828	28.1	2,492	48.1	10.5	11,250	44.5	47.2
Service	11,657	13.7	1,825	35.2	15.7	7,714	30.5	66.2
Laborers	7,070	8.3	539	10.4	7.6	1,467	5.8	20.7
No job	-	-	8,690	-		28,339	-	
Income	[1975: families]							
Under $3,000	(Frequencies	4.5	3,234	24.8		7,309	14.6	
$3,000 - $5,999	and percentages	11.6	4,003	30.7		11,787	23.6	
$6,000 - $7,499	reported for	17.0**	1,351	10.4		4,560	9.1	
$7,500 - $9,999	families but		1,280	9.8		5,904	11.8	
$10,000-$14,999	not for	22.3	1,912	14.7		10,442	20.9	
$15,000+	individuals)	44.5	1,240	9.5		10,012	20.0	
Not Reported		-	851	-		3,588		
Residence	[1970: all ages]							
Urban	149,325	73.5	9,094	65.6	8.0***	35,455	66.2	31.4***
Rural - Non-farm	53,387	26.5	4,008	28.9	11.7***	15,295	28.5	44.5***
Rural - Farm			767	5.5		2,847	5.3	

* From Tables 15, 19, 28, 220, 660 and 708 in U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th Edition). Washington, D.C., 1977. Information in brackets refers to the data on the U.S. population.

** Number represents combined total for the involved categories.

*** Estimated for persons aged 17 and older assuming no age X residence interaction in the population as an approximation.

Issue I.10: What percentage of the target population falls into each of these three categories: (1) those who are economically secure and value education, (2) those who are beset with financial problems and family responsibilities but who value education, and (3) those who place no value on education?

As shown in the analysis of Issue I.9, a large percentage of the ABE target population is in the lower income groups. The PAE data base does not, however, include information on the value that respondents place on education, except in terms of educational behavior (i.e., years of schooling completed).

The Adult Quality of Life data base provides information that can assist us in answering this question. The data in Table I.10.a reveal that persons who have less education tend to place less importance on intellectual development and educational pursuits while persons who have more education consider it to be important. Thus, only 55.0% of those with less than a high school diploma consider the dimension of learning to be important or very important, as compared with 78.3% of those with some postsecondary education. On the other hand, 33.1% of those with less than 12 years of schooling consider learning to be only slightly or not at all important, whereas only 8.8% of those with some postsecondary education give learning such a low rating.

If we focus our concern upon the ABE target population (those with less than a 12th grade education), the data indicate that those with lower incomes place less importance on the dimension of intellectual development than do those with higher incomes (see Table I.10.b). Only 51.0% of those with incomes of $4,000 or less consider this dimension to be important or very important as compared with 58.1% of those with income of $12,000 or more.

Table I.10.a

Percentages of Respondents (Aged 30, 50, and 70 Years) Reporting on the Importance of Learning and Education (Controlling for Level of Education)

Level of Education	Total Frequency	Importance of Learning and Education			
		Important or Very Important	Moderately Important	Only Slightly or Not At All Important	Total
Less than high school	994	55.0%	11.9%	33.1%	100.0%
High school diploma	636	66.2%	15.1%	18.8%	100.0%
Some postsecondary	1,370	78.3%	12.9%	8.8%	100.0%

Table I.10.b

Importance of Education in the ABE Target Population as a Function of Income (Using the 50- and 70-Year-Olds From the Adult Quality of Life Studies)

Annual Income	Total Frequency*	Importance of Educational and Intellectual Development			
		Important or Very Important	Moderately Important	Only Slightly or Not At All Important	Total
Less than $4,000	198	51.0%	8.1%	40.9%	100.0%
$4,000-$11,999	346	50.0%	11.3%	38.7%	100.0%
$12,000 or more	160	58.1%	13.8%	28.1%	100.0%

*The total frequency equals 704 rather than 994 because of persons who failed to respond to the question on income (a 29% nonresponse).

Issue I.11: What are the characteristics of the ABE demand population in terms of ethnic background, sex, age, educational achievement, occupation, income, ability level,* citizenship,* welfare status,* place of residence, and psychiatric condition*?

This analysis involves a comparison of characteristics of the ABE demand population with those of the target population. To the extent that the demand population differs from the target population, one could make a case that adult basic education programs are not being uniformly used to meet society's needs. On the other hand, certain segments of the target population may be more important targets than others.

The following are highlights of the results presented in Table I.11:

1. A larger percentage of the demand population than the target population for ABE are minorities. Thus, attempts specifically designed to reach minority populations would appear to be somewhat successful.

2. More of the demand population than the target population for ABE are female.

3. A larger percentage of the demand population than the target population are less than 45 years of age.

4. A larger percentage of the demand population as compared with the target population have a job and are employed as white-collar, blue-collar, or service workers.

5. A larger percentage of the demand population as compared with the target population have incomes of $15,000 or more.

6. More of the demand population than the target population live in urban areas. This may be reflecting the greater availability of ABE programs in urban areas.

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* Data not available.

TABLE I.11

Characteristics of the ABE Target and Demand Populations
As Shown in Percentages (Using the 1975 PAE)

Variable	Target Population		Demand Population	
	Less Than 8th Grade	Less Than High School	Less Than 8th Grade	Less Than High School
Ethnic Background				
White	76.1	83.9	61.6	79.4
Black	21.9	14.8	28.8	18.0
Other	2.0	1.3	9.7	2.6
Sex				
Male	50.5	47.8	39.3	37.0
Female	49.5	52.2	60.7	63.0
Age				
17-19	1.4	13.9	8.7	25.6
20-24	2.9	5.5	21.5	20.8
25-34	8.6	10.1	15.7	26.0
35-44	10.2	11.6	21.3	13.8
45-59	25.5	24.0	22.9	11.2
60+	51.5	35.0	9.9	2.6
Occupation				
White Collar	4.8	9.0	6.1	25.9
Blue Collar	15.5	21.0	20.9	20.0
Service Workers	13.9	14.4	32.0	21.0
Laborers	4.0	2.7	1.4	.8
No Job	61.9	52.9	39.7	32.5
Income				
Less than $3,000	24.8	14.6	18.5	8.4
$3,000-$5,999	30.7	23.6	19.5	15.2
$6,000-$7,499	10.4	9.1	10.7	8.0
$7,500-$9,999	9.8	11.8	18.2	13.2
$10,000-14,999	14.7	20.9	8.9	10.5
$15,000+	9.5	20.0	24.3	44.3
Place of Residence				
Urban	65.6	66.2	77.2	76.6
Rural Non-Farm	28.9	28.5	22.0	21.5
Rural Farm	5.5	5.3	.8	1.9

Issue I.13: What are the special characteristics and educational needs of immigrants,* older adults, the handicapped,* the incarcerated* and institutionalized,* minority groups, the unemployed, and women?

Older Adults

The majority of adults in the ABE target population, defined as those with less than an eighth grade education (TP8), and those with less than a twelfth grade education (TP12), are over the age of 45. In fact, half of the TP8 population is over the age of 60. (See Table I.11) This is primarily a result of the dramatic increase in high school completion rates between 1930 (30%) and 1940 (50%) (Condition of Education, 1976). Although most of these older adults are white, a substantial percentage are black. (See Table I.13.a) Indeed, over twice as many blacks as would be expected from the U.S. population figures are in the target population of those with less than an eighth grade education. Most of the oldest age group (60 and over) hold no job, presumably because they are retired. Of those who are employed, most hold blue-collar or service occupations, and a large percentage are earning less than $7,500 a year.

Minorities

Table I.13.b displays the data on the various racial/ethnic groups. For those in the target population who have less than a high school education, differences appear among the age groups. As compared with the whites, the minorities (black and others) include larger percentages of persons less than 60 years of age. For example, among blacks, the target population is fairly uniformly spread across age categories. A higher percentage of minorities are employed in service occupations than are whites, and fewer are employed in white-collar occupations. This is true for both levels of the target population. Almost 40% of all blacks in the less than eighth grade education target population earn under $3,000 a year. An additional 30% earn

* Data not available.

Table I.13.a

Characteristics of the ABE Target Population: Older Adults
(Shown as a Percentage of the Total Target Population)
(Using the 1975 PAE)

Older Adults	Total U.S. Population	Target Population: Less than 8th Grade		Target Population: Less than High School	
		45-59 (n=3,530)	60+ (n=7,142)	45-59 (n=12,853)	60+ (n=18,735)
Ethnic Background					
White	88.0*	72.7	76.0	81.2	88.2
Black	10.4*	25.1	22.4	17.7	10.6
Other	1.6*	2.2	1.6	1.1	1.0
Sex					
Male	47.8*	51.1	47.5	49.2	44.9
Female	52.2*	48.9	52.5	50.8	55.1
Occupation					
White Collar	49.8*	3.6	1.4	11.9	4.3
Blue Collar	28.1*	30.2	5.5	31.2	6.6
Service Workers	13.7*	20.7	7.1	16.6	7.1
Laborers	8.3*	5.0	2.6	3.6	2.5
No Job	-	40.6	83.4	36.6	79.5
Employment Status					
Employed	55.3**	54.2	15.8	59.5	19.3
Unemployed	8.5**	5.9	.9	4.5	1.3
Not in Labor Force	38.2**	39.9	83.3	36.0	79.4
Income					
Less than $3,000	4.5*	17.3	33.1	9.2	25.8
$3,000-$5,999	11.6*	24.5	35.2	17.4	34.0
$6,000-$7,499	17.0*	11.2	9.1	9.3	8.8
$7,500-$9,999		12.8	6.5	13.6	9.5
$10,000-$14,999	22.3*	21.4	9.1	25.5	12.3
$15,000+	44.5*	12.6	7.1	25.0	9.6
Residence					
Urban	73.5*	62.1	68.5	63.8	67.5
Rural Non-Farm	26.5*	30.7	26.3	29.0	26.8
Rural Farm		7.3	5.2	7.1	5.7

* From Tables 15, 19, 220, 660, and 708 in U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th Edition). Washington, D.C., 1977.

** Figures do not total 100%; from Table 625 in U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th Edition). Washington, D.C., 1977.

Table I.13.b

Characteristics of the ABE Target Population: Minorities
(Shown as a Percentage of the Total Target Population)
(Using the 1975 PAE)

Minorities	Total U.S. Population	Target Population					
		Less than 8th Grade			Less than High School		
		White (10,549)	Black (3,043)	Other (277)	White (44,970)	Black (7,917)	Other (710)
Sex							
Male	47.8*	51.2	49.0	40.1	48.0	46.3	46.5
Female	52.2*	48.8	51.1	60.0	52.0	53.7	53.5
Age							
17-19	20.9**	1.6	.9	0.0	14.0	13.0	24.0
20-24		3.0	2.0	9.9	5.2	18.4	13.1
25-34	20.7**	9.0	6.6	12.6	9.8	18.0	6.1
35-44	15.0**	10.6	9.0	8.1	11.1	18.4	9.6
45-59	43.3**	24.3	29.2	28.3	23.2	17.7	19.9
60+		51.5	52.5	41.1	36.7	10.8	27.4
Occupation							
White Collar	49.8*	2.8	1.0	0.0	10.0	3.9	5.9
Blue Collar	28.1*	19.5	13.2	11.0	21.6	18.4	11.0
Service Workers	13.7*	11.2	19.4	17.7	12.9	22.9	16.3
Laborers	8.3*	4.1	2.9	7.3	2.8	2.2	1.7
No Job	-	62.4	63.6	64.0	52.7	52.5	65.2
Employment Status							
Employed	55.3**	34.5	33.2	32.1	43.3	41.2	33.1
Unemployed	8.5**	3.5	3.4	3.9	4.9	7.4	4.5
Not in Labor Force	38.2**	62.0	63.4	64.0	51.8	51.4	62.4
Income							
Less than $3,000	4.5*	20.5	39.7	23.4	12.5	26.1	15.8
$3,000-$5,999	11.6*	31.5	29.1	17.9	22.4	30.0	21.9
$6,000-$7,499	17.0*	10.5	10.8	2.5	8.9	10.6	9.1
$7,500-$9,999		10.4	7.9	10.8	11.9	11.3	11.1
$10,000-$14,999	22.3*	16.4	8.9	16.8	22.3	13.7	15.1
$15,000+	44.5*	10.8	3.6	28.6	22.0	8.4	27.2
Residence							
Urban	73.5*	62.6	74.4	79.7	63.8	79.0	70.2
Rural Non-farm	26.5*	31.5	21.2	16.4	30.6	17.1	25.8
Rural Farm		5.9	4.4	3.9	5.6	3.9	4.0

* From Tables 15, 19, 220, 660, and 708 in U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th Edition). Washington, D.C., 1977.

** Figures do not total 100%; from Table 625 in U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th Edition). Washington, D.C., 1977.

between $3,000 and $5,999 a year. A greater percentage of the blacks than the whites (74% as compared with 62.6% for eighth grade education, and 79% as compared to 63.8% for less than high school education) live in an urban area.

The Unemployed

Table I.13.c presents data on the unemployed in the ABE target population. A larger percentage of the unemployed, as compared with the employed, are female (40% versus 27%). Compared with those who are employed, the unemployed tend to come from the younger age groups. Over half of the unemployed (57% for TP8 and 51% for TP12) previously had blue-collar jobs, whereas less than half of the employed group (47% for TP8 and 43% for TP12) held a blue collar job. Not surprisingly, in 1975, almost half of the unemployed in the less than eighth grade target population had incomes of less than $6,000 a year, as compared with 34% of the unemployed group. For those with less than a high school education, 36% of the unemployed group and 22% of the employed group had incomes under $6,000 a year. Finally, a much larger percentage of the unemployed as compared with the employed lived in an urban area.

Women

A much higher percentage of women than men in 1975 had no paid employment. Subsidiary analyses indicated that larger percentages of the women who were employed as compared with the men tended to be employed in blue-collar or service occupations. Not suprisingly, given the women's employment status, over 60% of the females in the less than eighth grade education population had incomes under $6,000 a year, and only 8% had incomes greater than $15,000 a year. For those women with less than a high school education, a little over 40% had incomes under $6,000, and 18% had incomes greater than $15,000 a year.

Table I.13.c

Characteristics of the ABE Target Population: The Unemployed
(Shown as a Percentage of the Total Target Population)
(Using the 1975 PAE)

Unemployed	Total U.S. Population	Target Population					
		Less than 8th Grade			Less than High School		
		Employed (4,744)	Unemployed (479)	Not in Labor Force (8,649)	Employed (22,979)	Unemployed (2,806)	Not in Labor Force (27,824)
Ethnic Background							
White	88.0*	76.8	76.3	75.7	84.8	78.0	75.9
Black	10.4*	21.3	21.5	22.3	14.2	20.8	14.6
Other	1.6*	1.9	2.2	2.1	1.0	1.1	1.6
Sex							
Male	47.8*	72.9	60.1	37.6	63.9	59.7	33.2
Female	52.2*	27.1	39.9	62.4	36.1	40.3	66.8
Age							
17-19	20.9*	.9	3.6	1.6	13.6	23.4	13.2
20-24		4.5	5.4	1.9	6.6	15.6	3.5
25-34	20.7*	13.9	19.5	5.0	13.6	17.1	6.5
35-44	15.0*	16.5	15.4	6.4	17.2	14.6	6.6
45-59	43.3*	40.4	43.2	16.3	33.3	20.6	16.7
60+		23.8	13.0	68.8	15.7	8.7	53.5
Occupation							
White Collar	49.8*	6.4	4.0	0.0	19.6	11.7	0.0
Blue Collar	28.1*	46.8	57.1	0.0	42.8	50.7	0.0
Service Workers	13.7*	35.1	32.9	0.0	30.6	24.8	0.0
Laborers	8.3*	11.2	1.6	0.0	6.3	1.0	0.0
No Job	-	.5	4.4	100.0	.8	11.9	100.0
Income							
Less than $3,000	4.5*	11.7	13.4	32.5	6.5	10.4	21.7
$3,000-$5,999	11.6*	22.9	30.4	35.0	16.0	25.9	29.6
$6,000-$7,499	17.0*	13.6	14.5	8.4	9.0	9.6	9.2
$7,500-$9,999		15.1	16.3	6.6	13.3	15.1	10.2
$10,000-$14,999	22.3*	22.3	15.4	10.6	26.7	22.8	15.9
$15,000+	44.5*	14.4	10.1	6.9	28.5	16.2	13.4
Residence							
Urban	73.5*	58.9	71.1	68.9	64.1	72.7	67.2
Rural Non-farm	26.5*	32.5	22.5	27.3	28.9	26.0	28.5
Rural Farm		8.6	6.4	3.8	6.9	4.5	4.4

* From Tables 15, 19, 220, 660, and 708 in U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th Edition). Washington, D.C., 1977.

Issue I.14: What differences occur in the participation rates of special subgroups such as immigrants, older adults, the handicapped, the incarcerated, minority groups, the unemployed, and working women?

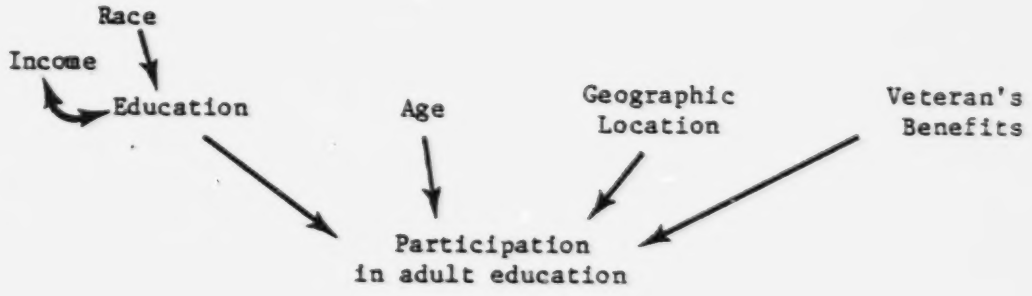
and

Issue I.15: Are certain subgroups less likely than others to participate in ABE, even when controlling for educational status, income, sex, and other important characteristics (e.g., age, race)?

and

Issue II.14: What are the differences between those members of the target population who enroll and those who do not?

Using simple multiple regression analysis, Anderson and Darkenwald (1979) reported on factors associated with participation in adult education. They found that amount of education is the most powerful predictor of participation, with age as the second most powerful predictor. Income and race were essentially unrelated to participation except through their association with education. Two other variables -- geographic location and eligibility for veterans benefits -- had modest direct effects on participation. These findings indicate the following model.



Analysis of the 1975 PAE

SAGE has carried out analyses of the PAE data to replicate and extend the results of Anderson and Darkenwald. We used log-linear analyses or multiple contingency-table analyses (Appendix A provides further discussion of the method.) For these analyses, which focused on the target population of adults without a 12th grade education, we used certain variables available in the PAE data that had been included in the Anderson and Darkenwald model or reported in the literature. These variables were age

(A), education (E), income (I), race (R), sex (S), and participation (P). The variables were included in various configurations and in different models. It should be noted here that the raw number of participants (N=1394) was large enough to permit an examination of the main effects and their interactions. The model that was selected as most parsimoniously fitting the 1975 participation rates for the target population for ABE included the main effects of all five factors except sex and the interactions of age with education, income, and race, respectively. The LR chi-square statistic for this base model (PA, PE, PI, PR, PAE, PAI, PAR) was 201.54, with 205 degrees of freedom.

Table II.14.a presents the likelihood ratio chi-squares computed for each of the factors in the prediction of participation in adult education for this target population. In each case the LR chi-square is the difference between chi-squares for two models: one model that includes all other factors but not the named effect and the other which adds the named effect. For example, to test the effect of age on participation, we first calculated the chi-square for the model that (1) fit all of the relations among predictive factors perfectly and (2) included all the effects of education, income, race, and sex on participation. We then calculated the chi-square for the model that added to this the age-effect on participation. The difference of these two chi-squares was 303.3. This test indicates whether, when all other factors are taken into account, the named factor (age) still has further predictive value--predictive value that therefore could <u>not</u> be an artifact of its association with other factors. The "F" column is the ratio of the chi-square to the degrees of freedom. The expected value under the no-effect hypothesis is always 1.0. Thus, the reported "F" may be used to compare the magnitudes of the effects. It should be noted that some factors can be significant in Table II.14.a but not included in the base model, and vice versa. This is because the selection of a base model is in terms of all possible combinations of factors in alternative models.

An alternative question, for each factor, concerns the predictive value each factor has when it is the only information available to predict participation in adult education. Normally, this measure of overall predictive value will be greater than the measure of residual predicted value after other factors are considered, but not always. In the final two

Table II.14.a

Analysis of Effects of Age (A), Education (E), Income (I), Race (R), and Sex (S) on Participation (P) in Adult Education for Adults with Less than a 12th Grade Education in 1975

Base Model PA, PE, PI, PR, PAE, PAI, PAR
LR Chi Square = 201.5, df = 205

Effect	LR Chi Square	df	p	F	Percentage of Total Uncertainty Accounted for (Factor given first chance)	Percentage of Within-cell Uncertainty Accounted for (Factor given last chance)
PA	303.3	4	<.001	75.8	6.8%	3.1%
PE	151.9	3	<.001	50.6	5.3%	1.5%
PI	9.4	2	<.01	4.7	1.6%	0.1%
PR	21.5*	1	<.001	21.5	0.2%	0.2%
PS	3.0*	1	NS	3.0	**	**
PAE	33.7	12	<.001	2.8	0.4%	0.3%
PAI	19.8	8	<.02	2.5	0.4%	0.2%
PAR	5.2	4	NS	1.3	0.1%	0.1%
PAS	6.5	4	NS	1.6	0.1%	0.1%
PEI	6.0	6	NS	1.0	0.1%	0.1%
PER	.7	3	NS	0.2	**	**
PES	5.7	3	NS	1.9	**	0.1%
PIR	.8	2	NS	0.4	0.1%	**
PIS	1.6	2	NS	0.8	**	**
PRS	4.9	1	<.05	4.9	0.1%	0.1%

* No convergence after 50 iterations.
** Less than .05% accounted for.

columns of Table II.14.a, we have presented measures of the predictive value of each factor, both "overall" and "residual". These measures are directly derived from the likelihood ratio chi-squares, by dividing by the maximum possible chi-squares, that which would occur if the factor alone accounted for all of the variance in participation. They are, conceptually, the proportion of uncertainty (in the information theory sense) in participation that is accounted for by the factor. (Appendix A contains a discussion about uncertainty reduction as a measure of productive strength.) These measures are presented in terms of the percentage of total uncertainty accounted for (overall) and the percentage of within-cell uncertainty accounted for by each factor (residual). The first percentage indicates the level of uncertainty reduction (or predictability) when the factor is used first, and the second percentage indicates that same level when the factor is used last. Note that the sum of the uncertainty accounted for when each factor is used first is slightly larger than the combined percentage of uncertainty accounted for by all main effects and two-way interactions (i.e., 15.2% versus 12%). When each factor is used last, the total is slightly smaller (i.e., 5.9% versus 12%). For each factor, the ratio of the smaller to the larger of the two measures is an indication of the extent to which the predictive value of the factor is not shared with other factors. In a few cases, when the computational algorithm failed to converge (in 50 iterations) the measures are unstable; in these cases, however, the effects are small.

The total uncertainty in predicting participation for this population of 49,300,000 adults without a 12th grade education is 13,000,000 bits or .263 bits per person.* Even knowing all five factors, participation cannot be perfectly predicted. In fact, only 12% of the uncertainty is eliminated when all five factors are used in the prediction: 11,400,000 bits of uncertainty (.231 bits per person) remain unpredicted. However, of the predictable 1,500,000 bits, 1,300,000 bits (or 85% of the total predictable uncertainty) are accounted for by a model that includes all main effects and two-way interactions effects on participation. Thus, higher order interactions need not be considered.

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* The participation role is 4.5%, and $.045 \log_2 (1/.045) + .955 \log_2 (1/.955) = .263$.

The results appearing in Table II.14.a indicate significant main effects of age, education, income, and race on participation and significant interactions of age and education, of age and income, and possibly of race and sex on participants. The probability levels, as noted in Appendix A, should be considered as approximations only, because we have only roughly approximated the design effects present in the data. For this reason, we regarded the inclusion of the race x sex interaction in the base model as unnecessary, in light of the facts (1) that the chi-square for that base model (without race x sex interaction) was acceptable and (2) that the model would then be independent of one factor entirely, sex.

Table II.14.b provides measures of the two-way associations that do not involve participation. Many of these models did not converge completely in 50 iterations using BMDP3F, but the results are indicative of the relative sizes of the associations. All of the associations are significant except for race-sex. Thus, any attempt to analyze the effects of these variables on some behavior, such as participation in adult education, must control, as we did, for indirect as well as direct effects.

Table II.14.b

Analysis of Associations of Age (A), Education (E), Income (I), Race (R), and Sex (S) Among Adults With Less Than a 12th Grade Education in 1975

Effect	LR Chi Square	df	p	F
AE	1335.0*	12	.001	111.3
AI	726.8*	8	.001	90.8
AR	188.9*	4	.001	47.2
AS	18.4*	4	.005	4.6
EI	250.7*	6	.001	41.8
ER	138.9*	3	.001	46.3
ES	60.7*	3	.001	20.2
IR	308.1	2	.001	154.1
IS	111.1	2	.001	55.7
RS	1.1	1	NS	1.1

* No convergence after 50 iterations.

Figure II.14.a displays the effects of age and education on participation in this target population. The participation rate is very similar for those in the two youngest age groups--up to 25 and 25 to 34 year-olds. Then the participation rate drops off dramatically with increasing age. As for education, there appears an increase in participation with an increase in highest grade completed. The interaction of age and education seems to be due to a high level of participation among those in the younger age groups and with only an elementary education. It should be noted that these participation rates are based on the parameter estimates from the model. As such, they present the participation rate controlling for other factors; that is, they pertain to individuals who are the same except for the named factor. (Further discussion of this point appears in Appendix A.)

Figure II.14.b displays the effects of age and income on participation in this target population. Individuals with higher incomes tend to participate more than others. The interaction of age and income appears to result from the low participation rates for those in the youngest age groups with highest income. Persons with incomes of more than $10,000 who are less than 25 years old participate at a slightly lower rate than their peers earning less. The participation for the high income group aged 25 to 34, however, is higher than the other income groups.

Figure II.14.c depicts the data on race and sex. The results on the main effects indicate that whites participated at a significantly higher rate than do blacks and that no significant differences appeared in the participation of males and females. The interaction results from a low level of participation among black males as compared with white males, white females, and black females. The rate of participation for black males was only 70% of the average rates of the other three groups.

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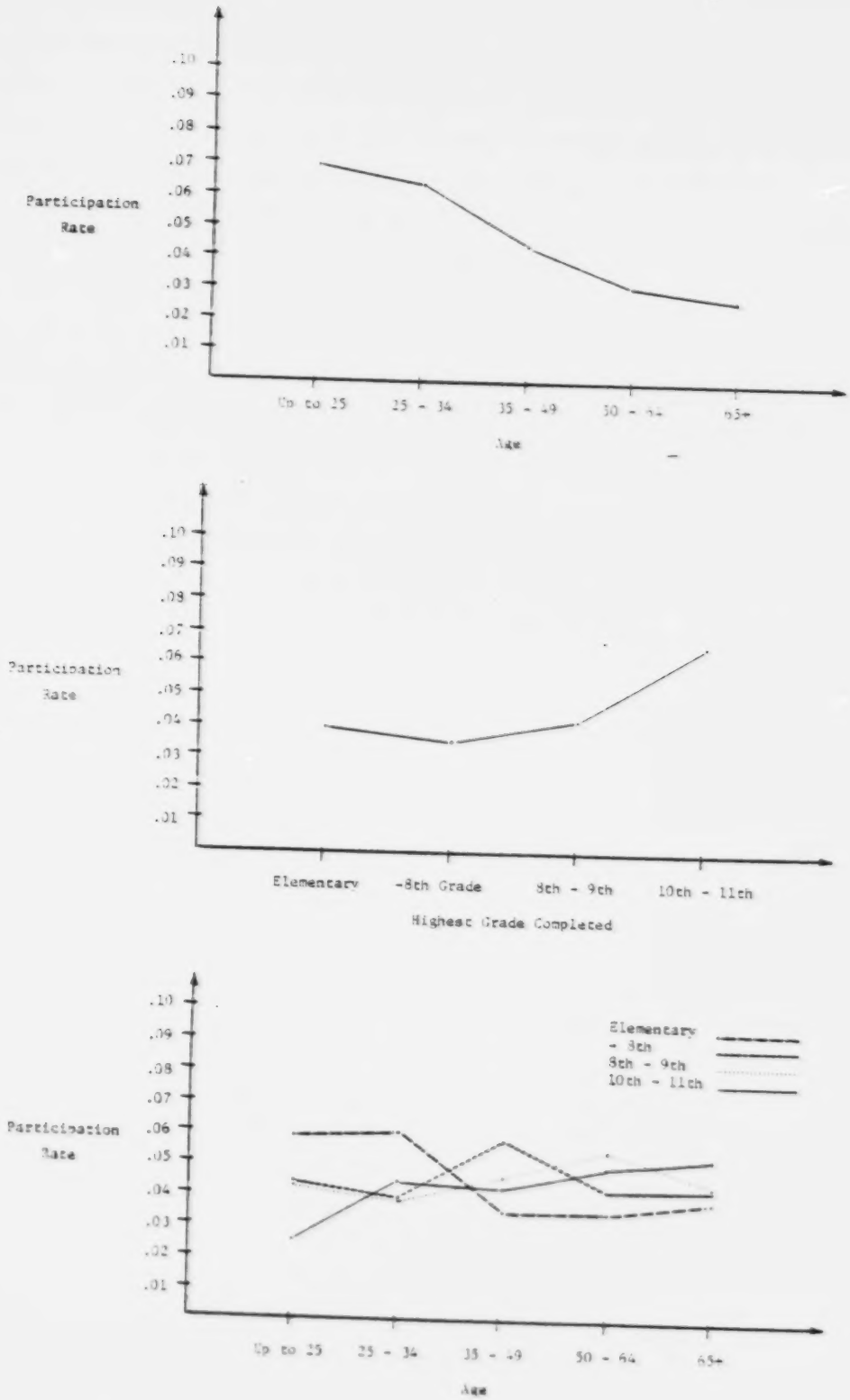


Figure II.14.a Participation rates of adults with less than a 12th grade education in 1975 as a function of age and education level. (Based on BNDP3F parameter estimates). The rate shown for the combined breakdown of age and education level (third graph) are residual differences, after main effects of age and education level have been considered.

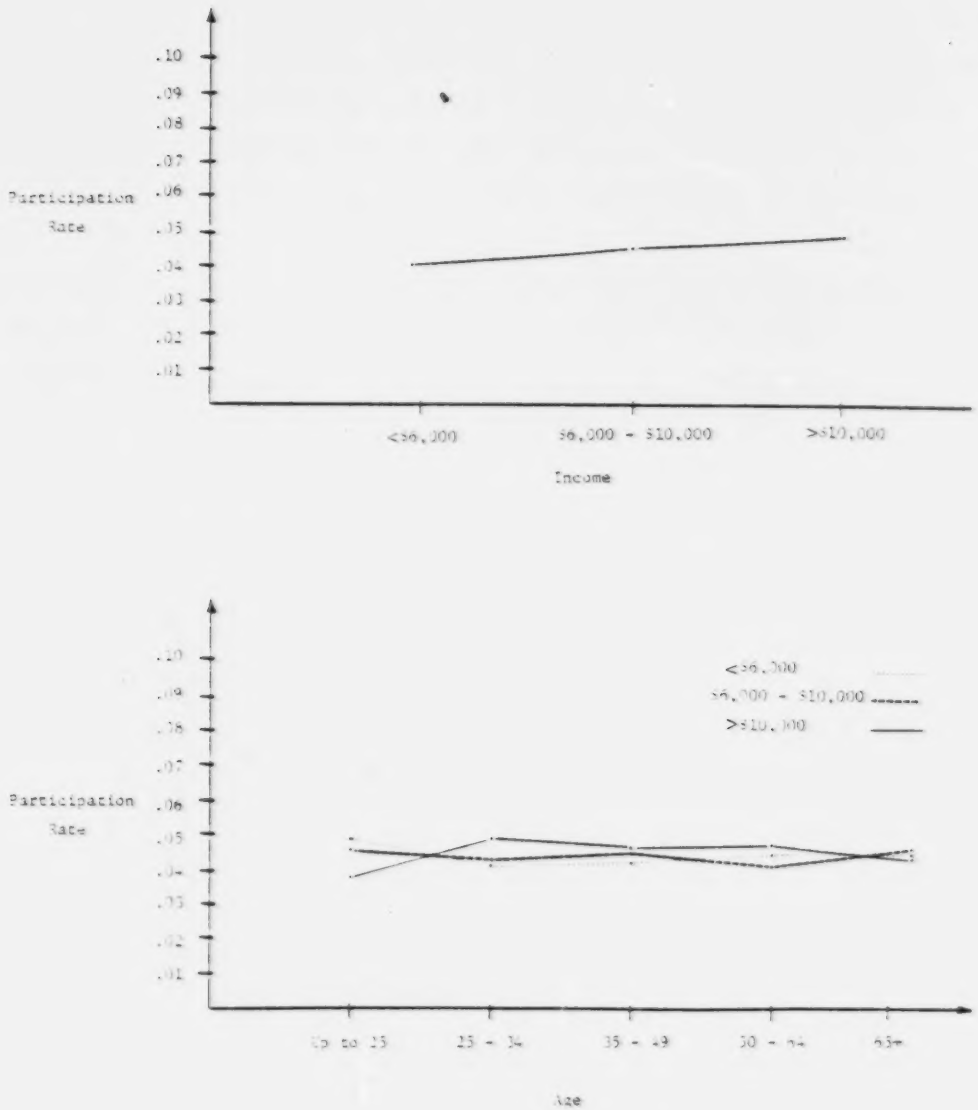


Figure II.14.b Participation rates of adults with less than a 12th grade education in 1975 as a function of age and income. (Based on 3MDP3F parameter estimates). The rates shown for the combined breakdown of age and income level (second graph) are residual differences, after main effects of age and income level have been considered.

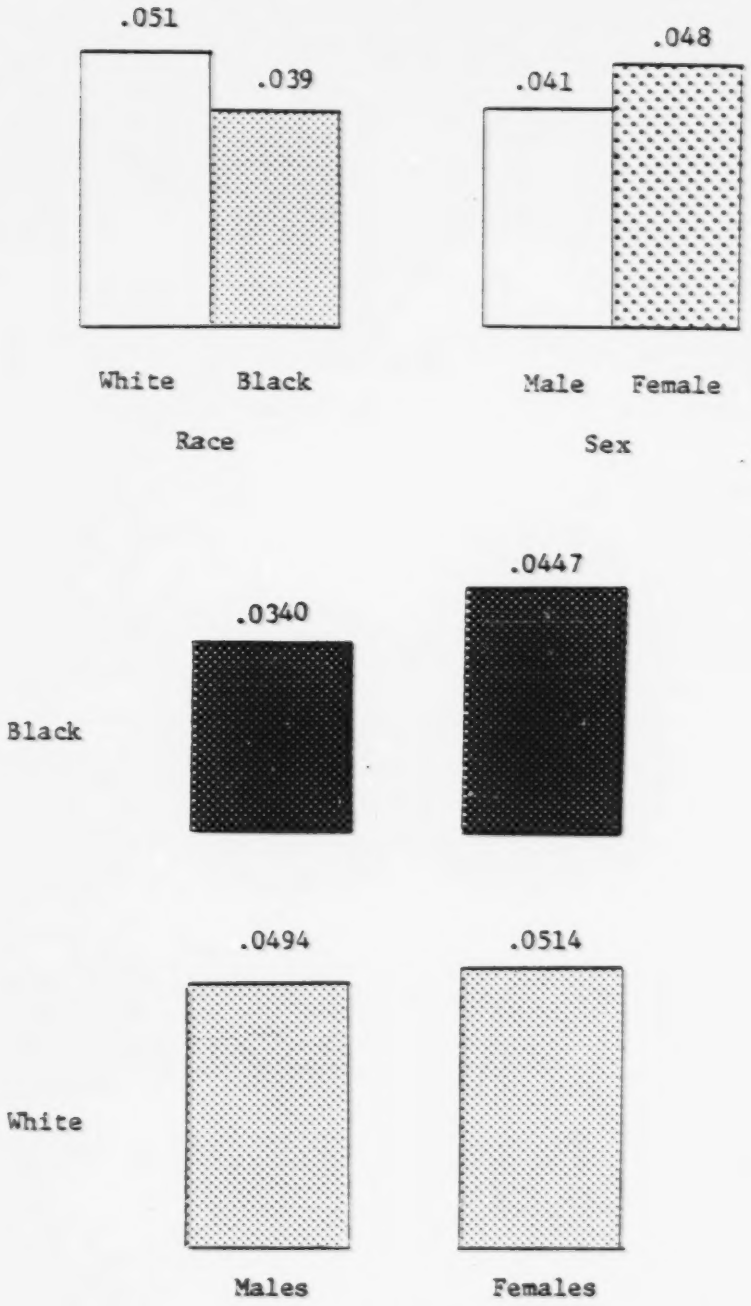
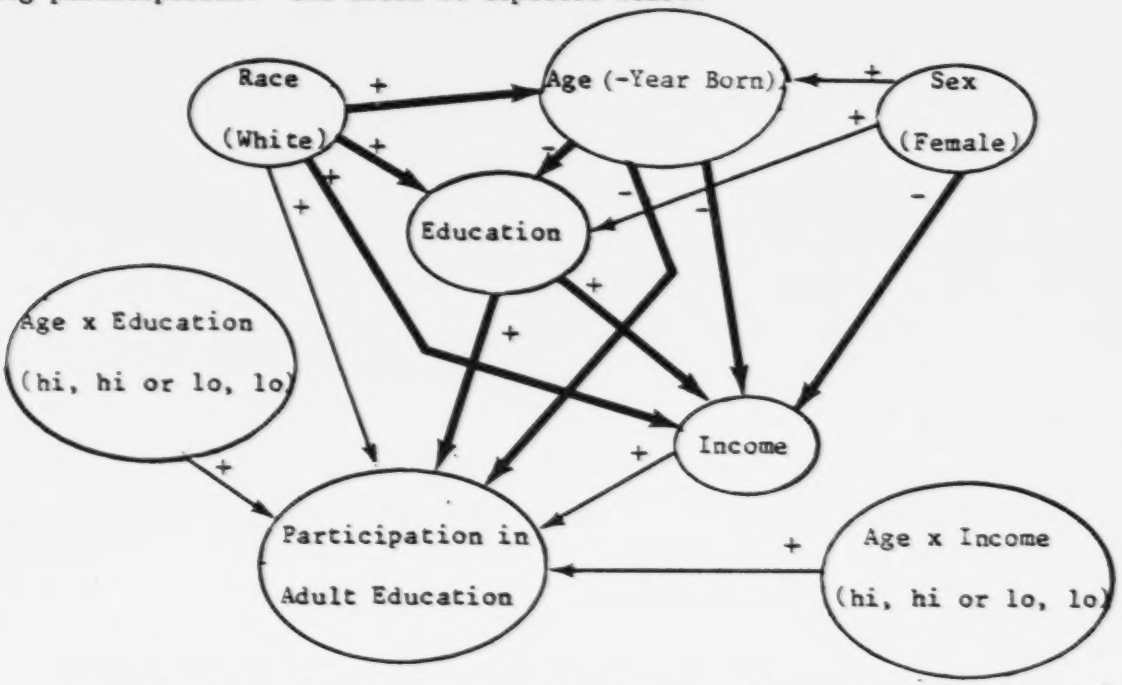


Figure II.14.c Participation in adult education in 1975 by members of the ABE target population (those with less than a 12th grade education) as a function of race and sex. (Based on BMDP3F parameter estimates).

From these analyses, we can construct a model of the factors affecting participation. The model is depicted below.



Signs indicate the direction of the effect. Whites, females, elders, and those with higher education and higher income are arbitrarily coded "+" in order to show the direction of effects. The large effects (chi-square≥100) are shown by boldface arrows.

Viewing all of these results, it appears that the participation rate of certain groups in adult education in 1975 was substantially lower than that of other groups. Compared to others who also did not have a 12th grade education, the following groups participated at a lower rate: persons who (1) were 65 years or older, (2) had less than a 10th grade education, (3) had incomes of less than $6,000, or (4) were black males.

Adult basic education can be viewed as a vehicle for providing adults most in need of basic skills with the tools for coping with society's demands for making productive contributions. If so, it would be preferable to find that any deviation from equal participation would be in favor of the most needy groups. Therefore, it is particularly discomforting to find that participation rates were lowest among individuals with the lowest educational attainment and the lowest incomes. Currently the national policy is focused on those with the greatest educational need. To increase participation among this population and other needy groups, it may be necessary to consider developing or expanding special programs.

Replication with the 1978 PAE

The conclusions reached from analyses of data from the 1975 survey of Participation in Adult Education were replicated using the recently released data from the 1978 survey of Participation in Adult Education. Generally, the size of the target population decreased by 4.2% between 1975 and 1978, and participation in adult education was at a lower rate in 1978 than in 1975 (3.5% vs. 4.4%). The overall counts of participants with less than a 12th grade education, based on the weighted PAE data were, thus, only 1,650,000 in 1978, compared to 2,200,000 in 1975. Enrollment in adult education by men with less than a 12th grade education, in particular, dropped from 1,000,000 to 650,000.*

Log-linear analyses of participation rates were carried out using BMDP3F. The base model was PA, PE, PI, PR, PS, PAE, PAI, PAR, with the LR Chi-square = 193.2, df = 204.

Table II.14.c presents the LR chi squares for each of the factors in predicting participation in adult education. The results indicate that all of the main effects except income level were significantly related to participation, and the interaction of age and income were also significantly related to participation. The major changes from 1975 to 1978 appear to have been that:

1. the disproportionate participation by women increased,
2. the relations of participation to other main effects were reduced, and
3. the interaction effect of race and sex disappeared, but the interactions of income with other factors had an increased effect on participation.

The participation rate parameter estimates are given in Table II.14.d.

The total uncertainty in adult education participation is 10,300,000 bits (.219 bits/person), and of that, 1,050,000 bits (or 10.2%) is

* Lower participation estimates may be related to a change in the survey form between 1975 and 1978. In particular, some occupational courses were excluded in 1978 but not in 1975 (compare item 59c in 1975 with item 60c in 1978, the latter of which emphasizes full-time). This explanation is compatible with the findings that the "drop" was greatest for younger adults (age <50), for males, and for occupational courses.

explained uncertainty. A model including all the main effects and two-way interaction effects accounts for 830,000 bits (or 79% of the predictable uncertainty).

Table II.14.c

Analysis of Effects of Age (A), Education (E), Income (I), Race (R), and Sex (S) on Participation (P) in Adult Education for Adults with Less than a 12th Grade Education in 1978

Base Model PA, PE, PI, PR, PS, PAE, PAI, PAR
LR Chi Square = 193.2, df = 204

Effect	LR Chi Square	df	p	F	Percentage of Total Uncertainty Accounted for	Percentage of Within-cell Uncertainty Accounted for
PA	253.6	4	<.001	63.4	5.3%	3.2%
PE	50.3	3	<.001	16.8	3.0%	0.7%
PI	5.2	2	NS	2.6	1.0%	0.1%
PR	17.1*	1	<.001	17.1	0.2%	0.2%
PS	37.8*	1	<.001	37.8	0.3%	0.5%
PAE	21.4	12	<.05	1.8	0.3%	0.3%
PAI	28.0	8	<.001	3.5	0.4%	0.4%
PAR	6.9	4	NS	1.7	0.1%	0.1%
PAS	0.6	4	<.05	2.4	0.1%	0.1%
PEI	8.0	6	NS	1.3	0.1%	0.1%
PER	0.4	3	NS	0.1	**	**
PES	2.5	3	NS	0.8	**	**
PIR	3.5	2	NS	1.8	**	**
PIS	7.0	2	<.05	3.5	**	0.1%
PRS	0.02	1	NS	0.02	**	**

* No convergence after 50 iterations.
** Less than .05% accounted for.

Table II.14.d

Participation Rates in Adult Education for Various Subgroups of Adults With Less Than a 12th Grade Education in 1978

Subgroup	Participation Rate
Race	
White	.036
Black	.030
Sex	
Women	.039
Men	.031
Age	
17 - 25	.054
25 - 34	.060
35 - 49	.031
49 - 64	.029
65+	.018
Income	
$7,500	.033
$7,500 - $12,000	.035
$12,000	.036
Education Completed	
Less than Elementary	.023
Less than 8th Grade	.034
8th or 9th Grade	.040
10th or 11th Grade	.049

Note: Participation Rates Are Based on BMDP3F parameter estimates.

Issue II.13: How accurate are the reported differences in characteristics between those who persist and those who do not?

and

Issue III.24a: Who drops out of ABE programs?

Anderson and Darkenwald (1979) used a multiple regression technique to examine predictors of persistence in adult education. The best predictors of persistence in adult education were satisfaction with the learning activity, age, educational attainment, race, and socioeconomic status. Thus those who were dissatisfied with the course, who were younger, who had completed less education, who were black, or who had a low socioeconomic status were more likely to drop out of adult education.

Analysis of the factors affecting persistence in ABE programs (as a subset of all adult education programs) could be handled using log-linear analyses similar to those discussed in an earlier section. Unfortunately, the small number of participants (e.g., raw N for 1975 = 1,394) and the dropouts (e.g., raw N for 1975 =348) prevented us from applying this analysis technique. Therefore, we are limited to reporting the dropout rates for various groups.

Table II.13 displays the dropout rate for persons who indicated that they had taken an ABE course. The dropout rate is provided for various subgroups for two years of the PAE survey -- 1969 and 1975. The results agreed with those presented by Anderson and Darkenwald (1979), indicating that the dropout rate differed for those in the various age, race, education and economic subgroups. The older age groups (45 - 59 and 60+) tended to have lower dropout rates than the younger age groups. While only about 25% of the whites dropped out, over 50% of the blacks dropped out. Adults who were closer to high school completion tended to complete their ABE courses more frequently. Also, higher dropout rates appear for those with lower incomes and those who live in poverty areas. Finally, it should be noted that no important differences appear between the males and females.

Some additional variables were examined, including employment status, region of the country, place of residence, and reason for taking the course. Consistent differences across the two survey years appeared for two of the variables. Persons in the South tended to have a higher dropout rate than did those in other parts of the country. This result may

be related to the demographic characteristics of the people in the South who are enrolled in ABE (i.e., young, poor blacks who have little education). As for the reason for taking the course, the dropout rates were highest among those who are taking the course "to get a new job", while the lowest dropout rates occurred among those who are taking the course "to improve or advance in the current job". It may be that those who have a job have some support or incentive from their employer to complete the course. On the other hand, those who are taking the course "to get a new job" may drop out of the program when they find that job, when they feel that the education is not helping them to get that job, or when the course has convinced them that that occupation is not suitable for them.

Table II.13

ABE Dropout Rates by Different Characteristics

Characteristics	Drop-Out Rate	
	1969	1975
Age		
17-19	27.8	21.9
20-24	27.9	37.8
25-34	30.9	28.9
35-44	27.9	37.5
45-59	30.9	7.8
60+	0.0	17.5
Race		
White	22.3	22.5
Black	43.9	52.0
Other	50.0	19.4
Sex		
Male	26.1	24.0
Female	28.8	28.5
Highest Grade Completed		
Less than 8th grade	44.2	57.9
8th	52.9	37.5
9th	42.1	49.1
10th	35.0	41.7
11th	30.0	36.6
12th	21.5	22.8
Postsecondary	10.0	11.3
Employment Status		
Working	25.0	29.4
With job; not at work	30.0	33.0
Looking; unemployed	0.0	25.6
Housekeeping	34.8	28.0
School	0.0	0.0
Other	60.0	0.0
Region of the Country		
Northeast	26.1	20.6
North Central	16.4	21.2
South	33.3	39.6
West	31.1	21.8
Place of Residence		
Urban	-	27.0
Rural non-farm	-	27.4
Rural farm	-	25.8
Income		
Less than $3,000	30.0	28.3
$3,000-$5,999	40.0	31.2
$6,000-$7,499	57.1	34.4
$7,500-$9,999	10.5	37.4
$10,000-$14,999	17.1	25.5
$15,000+	7.1	21.6
Not reported	-	32.7
Type of Area of Residence		
Poverty	-	43.3
Non-poverty	-	23.2
Reason for Taking Course		
For general information	30.1	23.9
To improve or advance in current job	19.3	16.2
To get a new job	33.3	27.7
For personal or family interests	24.4	38.1
For social or recreational interests	40.0	14.8
Other	38.2	31.9
No response	-	0.0

Issues II.16 and III.24b: Why do people drop out of ABE programs?

Table II.16.a presents the frequency distribution of the reasons for dropping out of adult education programs. Overall, the most common reasons for dropping out were "course disappointing or too demanding" (23.1%), "too much to do" (15.4%), "illness to self or family" (11.9%), and "time-inconvenient" (8.3%). These reasons can be compared with those given by Project TALENT participants for dropping out of other educational programs. As can be seen, the reasons differ for each group; however, they do include "course disappointing or demanding," "illness of self or family member," "changed job or new job," and "financial problems."

Table II.16.b presents reasons for dropping out of adult education programs by educational level (or highest grade completed). Some interesting contrasts appear for the different subgroups. None of the participants with less than an 8th grade education indicated that they had dropped out because the "course was disappointing or demanding". However, many of those with higher levels of education reported that as their reason for dropping out. Those with less than a 10th grade education gave "care of children or other family members," "illness of self or family," and "financial problems" most frequently as reasons for dropping out of courses. Those with a 10th grade education or more indicated the following reasons most frequently: "course disappointing or too demanding," "too much to do," and "illness of self or family".

Table II.16.a

Reasons for Dropping out of Various Educational Programs

	GRADE LEVEL	TOTAL FREQUENCY	COURSE DISAPPOINTING/DEMANDING	TOO MUCH TO DO	ILLNESS OF SELF OR FAMILY MEMBER	TIME INCONVENIENCE	CARE OF CHILDREN OR OTHER FAMILY MEMBER	CHANGED JOB OR NEW JOB	CHANGED RESIDENCE	FINANCIAL PROBLEMS	LOCATION INCONVENIENT	MARRIAGE/PREGNANCY	DECIDED WOULD NOT GET EVEN IF COURSE COMPLETED	ENTERED MILITARY SERVICE	CHANGED CAREER GOALS	PROBLEMS WITH TEACHER OR PRINCIPAL	COULD GET JOB WITHOUT COMPLETEING PROGRAM	TRANSFER TO OTHER PROGRAM OR SCHOOL	PERSONAL REASONS	OTHER
TOTAL (PAE)		10,308	23.1	15.4	11.9	8.3	6.1	5.7	5.4	4.7	3.0									16.8
TOTAL (TALENT - special follow-up)	1st-8th	36	11.1		24.4					15.5		11.1				4.4			22.2	11.1
	9th-12th	196	19.7		2.2					17.1		24.1				6.1			19.7	11.0
TOTAL * (TALENT - College)	Jr. Coll	136,122	3.7					21.8		15.0			15.1		10.3		7.2	1.3		15.3
	College	280,938	26.4		2.5		4.8	9.4		24.8		24.6		11.5**	8.2	0.9				21.6

* Totals equal more than 100% because more than one answer could be given.

** Represents 15.1% males and 0.1% females.

TABLE II.16.b

Reasons for Dropping Out of Adult Education Programs
by Highest Grade Completed
(Using the 1969, 1972, and 1975 PAE data)

Highest Grade Completed	Total frequency	Course disappointing/ demanding	Too much to do	Illness of self or family	Time inconvenience	Care of children or other family members	Changed job or new job	Changed residence	Financial problems	Location inconvenient	Other
Less than 8th	315	0.0	5.4	14.9	5.4	19.4	0.0	5.4	10.5	5.7	21.3
8th	246	7.3	6.9	19.5	14.2	0.0	22.0	8.9	14.2	0.0	6.9
9th	291	11.7	5.8	14.8	12.7	17.2	7.6	6.2	0.0	12.7	12.4
10th	565	9.4	18.8	2.5	6.2	17.3	12.2	0.0	10.3	9.2	14.2
11th	603	18.6	8.5	2.5	3.0	11.4	11.8	13.4	13.6	2.8	14.4
12th	4,298	28.5	15.5	10.8	7.0	4.3	5.0	6.5	4.1	2.6	15.8
Post high school	3,990	23.4	17.8	15.0	10.3	3.6	4.0	3.5	2.6	1.8	18.0
Total	10,308	23.1	15.4	11.9	8.3	6.1	5.7	5.4	4.7	3.0	16.3

Issue II.19: What instructional methods will improve recruitment and retention?

The most commonly used instructional method was the classroom teacher/lecture series method. It was not, however, the most successful method of instruction (as measured by the percentage of dropouts). The methods with the lowest dropout rates were correspondence courses, workshop/discussion groups, and TV/radio instruction. The method with the highest dropout rate was organized on-the-job training, followed by the classroom teacher and private tutor instructional methods. We should emphasize that instructional methods which have the greatest ability to retain students do not necessarily convey skills and knowledge in the most lasting manner. However, one cannot gain much from a course after dropping out.

Table II.19.a
Average Completion and Dropout Rates for ABE Participants
As a Function of Instructional Method
(Using the 1975 PAE)

Instructional Method	Completion Rates	Dropout Rates	Total
Classroom Teacher	69%	31%	100%
Lecture Series	82%	18%	100%
Workshop/Discussion	87%	13%	100%
Tutor/Private Instructor	70%	30%	100%
On-the-Job Training	53%	47%	100%
Correspondence Course	100%	0%	100%
TV/Radio	85%	15%	100%
Other	100%	0%	100%

The following paragraphs examine dropout rates for the various instructional methods for different subgroups in the population.

Educational level. Though the classroom teacher/lecture series method was the most common method, it was not a successful instructional method (as measured by the dropout rate) with the least educated. Almost 60% of those with only an eighth grade education dropped courses taught by this method. The most successful instructional methods used with partic-

ipants having less than a 12th grade education (but least common in terms of participants) were correspondence courses, private tutoring programs, and TV/radio instruction.

Age. The lecture series instructional method was found to be significantly more successful than other methods for the 18-19 year olds and the 45-54 year olds. Also, organized on-the-job training appeared to be consistently more successful than other methods for those between the ages of 25 and 34. This finding may be related to the occupational needs of the age group.

Race. The highest completion rates for both whites and blacks were found with the TV/radio instructional methods (94% for whites, 100% for blacks). Private tutoring also seemed to be a quite successful method, especially for blacks, with an 88% completion rate. Both of these methods would be expensive to make available on a large scale, so a more practical alternative should be sought. One alternative seems to be workshops and discussion groups, which appear to be equally effective for both blacks and whites. Unfortunately, the two most widely used methods--classroom teacher and lecture series--appeared to be the least effective for blacks in terms of completion rates.

Table II.19.b
Average Percentages of Participants
Completing ABE Courses, by Race
(Using the 1975 PAE)

Instruction Method	Completion Rates	
	Whites	Blacks
Classroom Teacher	75%	45%
Lecture Series	87%	66%
Workshop/Discussion	78%	78%
Tutor/Private Instructor	72%	88%
On-the-job Training	100%	33%
Correspondence Course	90%	*
TV/Radio	94%	100%

*No blacks in this instructional method in all three years.

Sex. Lecture series programs result in a higher completion rate for males than females. Eighty-six percent of the male participants completed lecture series courses, while only seventy-seven percent of the females completed. On the other hand, TV/radio courses showed higher completion rates for females. In TV/radio courses, 100% of the females and 85% of the males completed the course.

Employment status. This variable seems to have some relationship to success in certain instructional methods. It should be mentioned before discussing individual instructional methods and employment status groups that the majority of ABE participants in all instructional methods had the employment status of "working" or "housekeeper."

"Working" participants tended to complete their courses most frequently when the courses employed the following instructional methods: classroom teacher, correspondence courses, TV/radio methods, and on-the-job training. They tended to drop out most frequently with the private tutoring instructional method.

The results suggest that "housekeepers" have very high completion rates in the lecture series instructional method, in workshop/discussion groups, and with private tutors. "Housekeepers" also indicated relatively high completion rates when participating in TV/radio instructional programs. The classroom teacher instructional method presented "housekeepers" with some problems. "Housekeepers" and those who "have jobs but are not working" were the least successful groups with the classroom teacher method.

Those persons who were "looking for a job" had high completion rates with classroom teachers and in on-the-job training programs. "Students," and the "unable to work" had high completion rates with classroom teachers.

In conclusion, if a course consists mostly of "workers" and "housekeepers," almost any instructional method can be used successfully except private tutoring (unsuccessful for "workers") or classroom teacher (unsuccessful for "housekeepers"). If the class enrollees are "looking for a job," the best method appears to be on-the-job training or classroom teacher method.

Poverty status. This is a variable that was first introduced in the 1975 survey, and therefore this discussion will be confined to data from that survey year only.

The 1975 data indicate an overall ratio of non-poverty to poverty participants of about four to one. It should also be noted that, as a whole, poverty-status participants are much less successful in completing ABE programs than non-poverty participants. The evidence indicates that only 57% of all poverty status participants complete ABE programs, while 77% of all non-poverty status participants complete ABE programs.

Turning at this point to instructional methods, it seems that many of the instructional methods are geared for non-poverty status participants. Indeed, no participants having poverty status enrolled in private tutoring and correspondence programs. Only one of the seven instructional methods indicated equal completion rates for both poverty and non-poverty participants: the lecture series method. It should also be mentioned that all of the poverty status participants who enrolled in workshops/discussion groups and TV/radio instructional programs completed the course.

Note on above analyses. Those still taking ABE courses were omitted.

All percentages are averages of 1969, 1972, and 1975 data, except in the section on Poverty Status.

III. Organization for Delivery of Services

Issue III.28: In what ways can the nature and extent of participation by adults needing basic education be improved?

Information related to this issue is available only from 1975 survey data. The 1975 survey was the only survey to contain a course rating variable. The variable contained six options:

much more helpful than expected;
somewhat more helpful;
as helpful;
somewhat less helpful;
much less helpful; and
don't know.

The data showed that "much more helpful" courses had the following characteristics in contrast to the characteristics of courses rated as "much less helpful."

Much More Helpful Courses	Much Less Helpful Courses
o Course sponsored by community organizations and others; public grade schools and high schools.	o Course sponsored by 4-year and 2-year colleges.
o Instruction used tutoring, on-the-job training and film, radio, and TV methods.	o Instruction used correspondence and "Other" methods.
o Course payment was provided by public funding.	o Course payment was listed as "unknown."
o Course schedule was greater than 27 weeks but less than 52.	o Course schedule was greater than than 4 weeks but less than 8.

One rather obvious approach to use in improving the nature and extent of participation by adults needing basic education would be to have all ABE courses conform to the characteristics of "much more helpful" courses. These results, however, are based on the reports of the demand population. It is not necessarily the case that such characteristics would initially attract members of the ABE target population to enroll.

Issue IV.4: What resources are needed and what resources are available to reach the most disadvantaged, the poorest, the least literate, or the most alienated?

The PAE survey contains no information that identifies the most alienated of the adult education participants. It does, however, contain information to identify the most disadvantaged, the poorest, and the least literate. Table IV.4 presents the results of our analysis. For the purposes of this discussion, those earning less than $6,000 a year were defined as "disadvantaged" and "poor." The "least literate" were classified into three groups by educational level: (1) less than 8th grade, (2) 8th to 11th grades, and (3) 12th grade. The characteristics of a course (sponsor, ownership, location, instructional method, course hours, course length, and course payment) were defined as "resources."

The majority of the poor and illiterate take courses sponsored by community organizations. For those with the least education (less than 8th and 8th to 11th), a grade school or high school was the next most popular sponsor. Courses were located in school buildings, taught by classroom teachers, tended to be less than 10 hours in duration, and tended to last four weeks or less. For the least educated group (less than 8th grade), the courses were most frequently paid by a private organization.

Table 15.+

Resources Used by Participants in Adult Education
Who Have Reported Incomes of less than $6,000
(Using the 1975 PAE)

	All Participants (regardless of income)	Less than 8th	8th to 11th	12th
Sponsor				
Grade school or high school	8.7	20.6	26.7	11.6
2-year college or vocational-technical institute	18.4	6.1	13.8	14.6
Vocational, trade, business, or flight school	6.5	7.5	14.1	22.6
4-year college or university	21.6	2.7	1.4	5.4
Employer	12.0	-	6.0	6.7
Community organization and others	44.7	60.3	38.0	39.1
Ownership				
Public	-	90.8	91.0	77.0
Private	-	9.2	9.0	23.0
Location				
School building	27.5	45.6	48.5	44.0
College or university building	33.3	3.1	11.6	16.6
Community center, library, or museum	5.0	24.7	7.9	5.4
Church or other religious property	5.3	7.3	8.8	7.2
Place of work	9.1	-	6.3	7.2
Private home	7.3	12.8	8.9	9.4
Motel or other commercial building	12.4	6.5	7.9	10.2
Teaching Method				
Classroom teacher	40.3	69.9	47.9	40.3
Lecture series	20.4	6.6	6.6	9.4
Workshop or discussion group	20.9	8.7	19.8	21.5
Private instructor or tutor	5.1	9.0	6.2	6.6
Training on the job	3.9	-	8.0	8.7
Correspondence	3.2	-	7.2	6.1
TV, radio, film, or cassette	3.8	5.7	1.6	5.2
Other	2.4	-	2.8	2.1
Course Hours Per Week	$\bar{X}$=8			
10 or less		64.8	73.0	70.0
11 - 20		12.8	11.2	8.6
21 - 30		19.5	6.1	7.6
31 - 40		2.9	9.3	13.5
More than 40		-	.5	.3
Course Length in Weeks	$\bar{X}$=12			
4 or less		44.8	38.2	26.7
5 0 8		6.6	20.8	11.6
9 - 12		12.4	19.4	20.5
13 - 26		6.8	18.8	20.5
27 - 39		15.4	6.0	6.7
More than 39		14.0	6.8	14.0
Course Payment				
Self/family		25.4	53.3	62.7
Employer		12.5	15.4	14.5
Private organization		41.7	10.4	6.4
Other		15.2	15.1	13.4
Don't know		5.3	5.8	3.0

APPENDIX A

Details on the Log-Linear Analysis of Participation in Adult Basic Education (ABE)

Because the dependent variable is dichotomous, we decided to use log-linear analysis (or multiple contigency-table analysis) to examine factors affecting participation in adult education by members of the ABE target population. A hierarchical log-linear model was fitted to the cell frequencies; that is, the logarithm of each expected cell frequency was calculated as an additive function of main effects and interactions. This method of analysis permits the researcher to partition a table of chi-square statistics in a manner similar to the analysis of variance model. Dixon and Brown (1979) in the BMDP Biomedical Computer Programs P-Series provide a description of the log-linear approach and some examples using the BMDP3F package.

The results of the analysis (using BMDP3F) present both the likelihood ratio (LR) chi-square and the Pearson chi-square. Although we report only the LR chi-square, we have compared the LR and Pearson chi-squares, since they are asymptotically equivalent under any of the model-fitting procedures. If the two differ greatly, a problem may exist, usually too sparse a table; that is, that there are too many zero cells.

When the situation of a sparse table arises, it can be handled in one of three ways: (1) the categories can be redefined or the cut-points changes, (2) a category with small frequencies can be deleted, or (3) a constant (DELTA) can be added to each cell. As an example of redefining of categories, we collapsed the following six income categories into three categories.

Six Income Categories	Three Income Categories
Less than $3,000 $3,000 - $5,999	Less than $6,000
$6,000 - $7,499 $7,500 - $9,999	$6,000
$10,000 - $14,999 $15,000 or more	More than $10,000

In cases where it seems unreasonable to collapse categories, such as racial groups (with white, black, and others), we used the second approach, deleting the infrequent category (i.e., other). If the other two procedures are unacceptable, a constant can be added to each cell to eliminate the zero cells. It is recommended that the analyses be replicated using different values for DELTA (e.g., DELTA=.5; DELTA=.25; and DELTA=1/N). If the results from these analyses are not similar, they are highly suspect. We replicated analyses with a variety of DELTAs and found no substantial variation in the results.

Use of Weighted Data

The tests of significance and estimates of parameters and sizes of effects were computed using weighted data. In computation of the critical statistic, the likelihood ratio comparison between two models, the weights introduce two kinds of complexity for probability inference. The statistic is well-known to have a chi-square distribution for large samples, if the sample is simple random and observations are unweighted. However, the statistic is a multiple of the total sample size, so it will be distributed according to the chi-square model only if the sum of the weights of all the observations is equal the actual effective sample size. Second, if there is variance in weights, this will reduce the effective sample size below the "raw" sample size. In particular, the effective sample size for a sample drawn with differential sampling ratio or otherwise having variable weights is given by the sum of the weights divided by the (weighted) average weight $\left(\sum_{i=1}^{n} W_i / \left(\sum_{i=1}^{n} W_i \times W_i / \sum_{i=1}^{n} W_i\right)\right)$. There is a modest variance in weights of PAE survey respondents, which we increased substantially by subsampling nonparticipants in a four to one ratio to reduce the expense of the analyses. Thus, the weights of nonparticipants were roughly four times as large as the weights of participants used in our analyses. The

resulting effective sample size was 27,400 for the 1975 sample, based on a raw sample of 1394 participants and 29,752 nonparticipants. (The actual computer runs multiplied weights by an additional factor of 100 because BMDP3F does not read fractional weights, and the resulting printed chi-squares were divided by 100.) The constant used to adjust the 1975 weights was also used to adjust the 1978 weights in order to maximize comparability.

As a check on the statistical inference procedures, selected models were also fit unweighted, which, although they produced meaningless estimates of participation rates, produced chi-square statistics that were in the same range as the weighted chi-square statistics.

Uncertainty Reduction as a Measure of Predictive Strength

For nominal or categorical variables, information theory has long been known to be an appropriate method for expressing the strength of predictive relations (e.g. Garner, 1962). In fact, "uncertainty reduction" measures are computationally equivalent to the chi-square likelihood ratio statistics reported for log-linear analyses. Therefore, rather than interpret results as abstract "percentages of chi-squares accounted for," we have presented them in terms of the concrete concept of uncertainty reduction.

Conceptually, we view participation in adult education (P) as a binary variable to be predicted for each individual by a yes or no. There is less than 1 bit of uncertainty in this prediction; we are almost sure for a randomly selected individual that he or she is not a participant, because the participation rate is less than 5%. The exact form of the participation uncertainty measure is $PU = -p_{part}\log_2(p_{part}) - p_{nonpart}\log_2(p_{nonpart})$

which for $p_{part} \doteq .045$ gives PU = .263, per person.

If we consider a set of predictive categories, j = 1, . . ., K, the contingent uncertainty in the joint distribution of the predictors and of participation is just the difference between the uncertainty of the actual bivariate distribution (actual uncertainty) and the uncertainty assuming no predictive value (maximum uncertainty).

$$\text{AU (Actual uncertainty)} = -\sum_{i,j} p_{ij}\log_2 p_{ij}$$

$$\text{MU (Maximum uncertainty)} = -\sum_{i,j} p_i \times p_j \log_2(p_i p_j)$$

where p_{ij} is the proportion of observations with value i for participation and value j on the predictor(s) and p_i and p_j are the marginal proportions.

Contingent uncertainty is:

$$CU = -\sum_{i,j} p_i p_j \log_2(p_i p_j) + \sum_{ij} p_{ij}\log_2 p_{ij}$$

$$CU = -\sum_{i} p_i \log_2 p_i - \sum_{j}\log_2 p_j + \sum_{ij} p_{ij}\log_2 p_{ij}.$$

The corresponding likelihood ratio statistic (Dixon & Brown, 1979, p.302) is $G^2 = 2\sum_{i,j} f_{ij}\log_e(f_{ij}/\hat{f}_{ij}) = 2\sum_{i,j} f_{ij}\log_e(f_{ij}/(f_i f_j/f_{total}))$, where

$f_{ij} = p_{ij} f_{total}$, $f_i = p_i f_{total}$, and $f_j = p_j f_{total}$.

Writing this differently,

$$G^2 = 2f_{total}\sum_{ij} p_{ij}\log_e(p_{ij}/(p_i p_j))$$

$$= 2f_{total}\sum_{ij} p_{ij}(\log_e p_{ij} - \log_e p_i - \log_e p_j)$$

$$= 2f_{total}\left(\sum_{ij} p_{ij}\log_e p_{ij} - \sum_{i} p_i \log_e p_i - \sum_{j} p_j \log_e p_j\right).$$

That is, $G^2 = (2f_{total} \times \log_e 2) \times CU$.

Therefore, comparison of the relative predictive strength of two models in terms of chi-squared likelihood ratios is essentially equivalent to comparison in terms of uncertainty reduction.

In absolute terms, however, a vital difference exists. If a log-linear model were to "fit perfectly", the residual chi-square statistic

would be zero. We would say that that model accounted for 100% of the predictable variation in cell frequencies. That does not mean, however, that the model perfectly predicts the dependent variable (i.e., participation in adult education). It only means that the model captures all the predictability that one can obtain from the given set of predictors.

In order to enable the reader to interpret our results in the concrete terms of the strength of the five factors in predicting participation, we have therefore reported proportion of uncertainty in participation accounted for rather than proportion of cell-frequency variation accounted for by the model. These values are easily calculated from the computer printouts from BMDP3F. The proportion of contingent uncertainty is given by

$$\frac{CU}{PU} = \frac{-\sum_i p_i \log_2 p_i - \sum_j p_j \log_2 p_j + \sum_{ij} p_{ij} \log_2 p_{ij}}{-\sum_i p_i \log_2 p_i}$$

$$= \frac{G^2}{(2f_{total} \times \log_e 2)(-\sum_i p_i \log_2 p_i)}$$

$$= \frac{G^2}{2(f_{total} \log_e f_{total} - \sum_i f_i \log_e f_i)} .$$

Thus CU/PU can be computed simply from the G^2 values given that the overall marginal frequencies of participation and nonparticipation (f_i) are known.

The contribution of any particular factor to the prediction of participation in adult education can be approximated from the likelihood ratio chi-square statistics produced by BMDP3F. We assess the predictive value of a particular factor by comparing two models, one with the factor of interest (M_1) and one without (M_o). For each model we compute the estimated cell frequencies, $\hat{p}_{ij(1)}$ and $\hat{p}_{ij(o)}$. The predictive value of the factor is measured by the difference in uncertainty (DU) between

these two (bivariate) distributions:

$$DU = U_{(0)} - U_{(1)},$$

$$= - \sum_{i,j} \hat{p}_{ij(0)} \log_2 \hat{p}_{ij(0)} + \sum_{i,j} \hat{p}_{ij(1)} \log_2 \hat{p}_{ij(1)}.$$

(Because the marginal probability estimates are constrained to be the same as the actual probabilities in all models, this is the same as

$$DU = CU_{(1)} - CU_{(0)}.)$$

If we replace each $\hat{p}_{ij}$ by p_{ij} in computing the coefficients of the logarithms, we have

$$DU^* = - \sum_{i,j} p_{ij} \log_2 \hat{p}_{ij(0)} + \sum_{i,j} p_{ij} \log_2 \hat{p}_{ij(1)}.$$

We can easily show that

$$DU^* = \frac{G^2_{(0)} - G^2_{(1)}}{2f_{total} \log_e 2}.$$

As an example, consider the two contributions of age to participation shown in Table II.14.c. First, we compared model P,AEIRS with PA,AEIRS; that is, we examined the uncertainty reduction when we allowed age alone to account for participation. According to the BMDP3F printout, the two chi-square statistics were 796.46 and 378.71, based on a total (estimated effective) sample size of 25,836. Thus,

$$\frac{796.46 - 378.71}{25836 \times 1.3863} = .01166, \text{ and } .01166/.219 = 5.3\%.$$

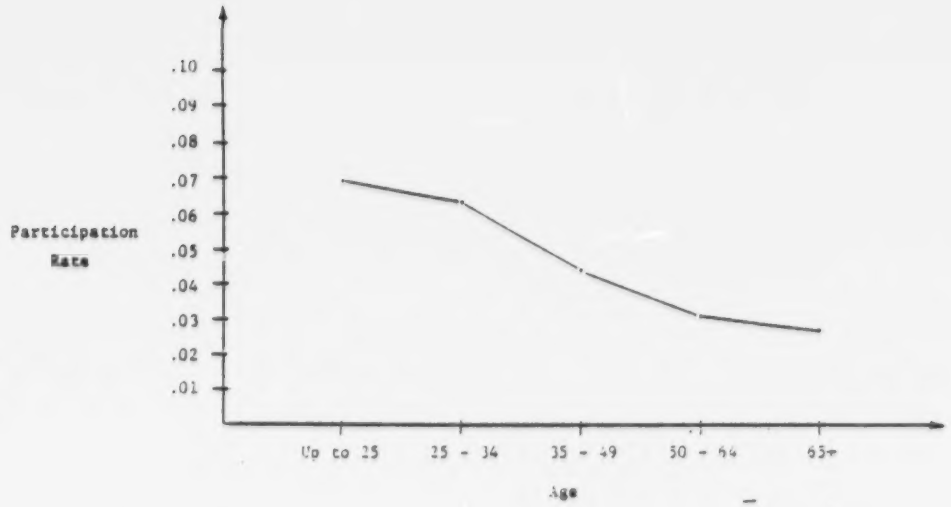
Second, we compared model P,AEIRS, PEIRS with PA,AEIRS,PEIRS; that is, we examined the uncertainty reduction when age was added to the prediction after trying to predict participation from all other factors and their

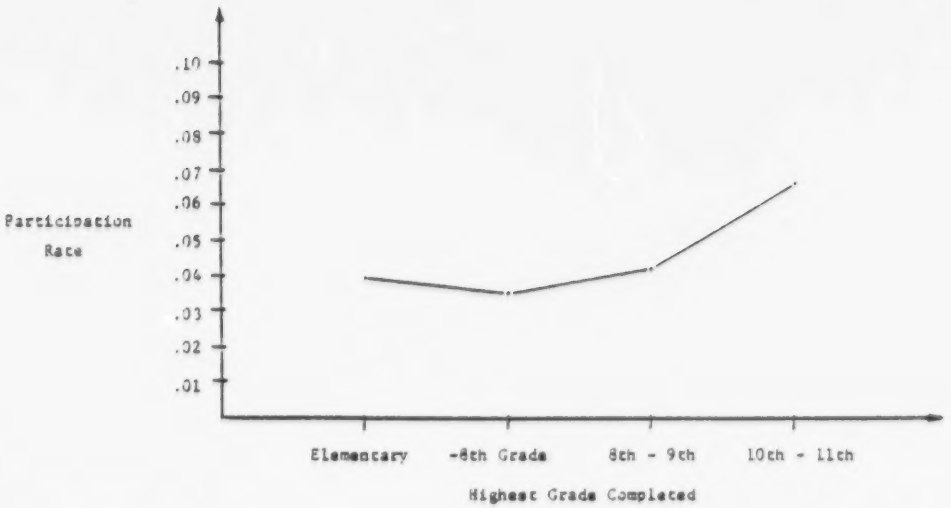
interactions. According to the BMDP3F printout, the two chi-square statistics were 470.26 and 216.61, with a difference of 253.65. Thus,

$$\frac{253.65}{25836 \times 1.3863} = .00708, \text{ and } \frac{.00708}{.219} = 3.2\%.$$

The accuracy of approximation involved in replacing $\hat{p}_{ij}$ by p_{ij} depends on the discrepancies between these vectors. If either (1) $\hat{p}_{ij} = p_{ij}$ for all i,j, or (2) $\hat{p}_{ij} = p_{i.} \times p_{.j}$ for i, j, then the approximation is perfect. These two cases are the extremes of (1) accounting for all predictable uncertainty with the model and (2) having no predictive value of the model. Although the approximation is not perfect for intermediate values of the two extremes, we have presented them as indications of the predictive value of each factor.

Reporting of Participation Rates. The text presents displays of the participation rates showing the effects of the factors used in the log-linear analysis. Figure II.14.a is duplicated here as Figure A.1 for the purposes of this discussion. The participation rates are based on the BMDP3F parameter estimates, and, thus, they show the variation in the displayed factor after the effects of other factors are taken into account. In contrast, Figure A.2 shows the participation rates using the raw marginal proportions. The displays using the marginal proportions may be confounded by other correlated factors. For example, the average education level of the older cohorts is less than that of the younger cohorts. Unless one uses the parameter estimates, an examination of the independent effects of educational level is confounded by the age factor. This can be seen if one compares the displays in Figure A.1 and Figure A.2. A similar comparison can be made with A.3 (which is a duplicate of Figure II.14.c) and A.4.





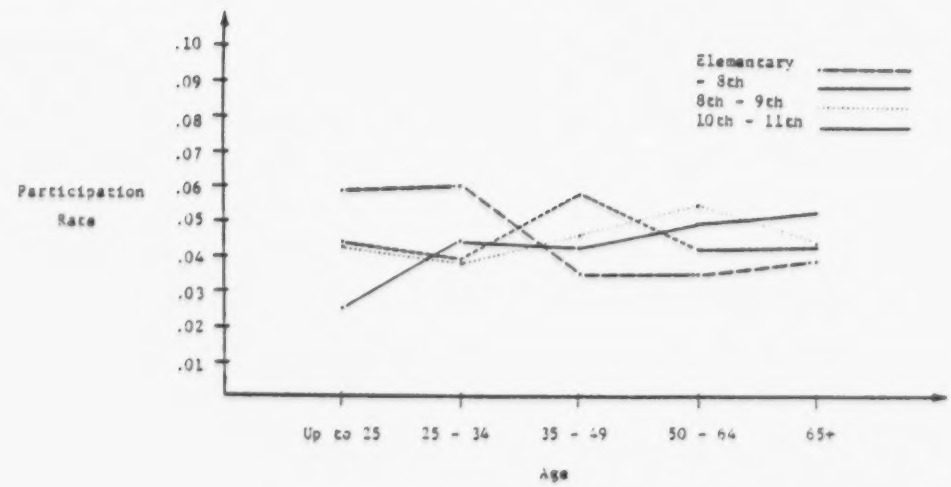


Figure A.1 Participation rates of adults with less than a 12th grade education in 1975 as a function of age and education level. (Based on BMDP3F parameter estimates). The rate shown for the combined breakdown of age and education level (third graph) are residual differences, after main effects of age and education level have been considered.

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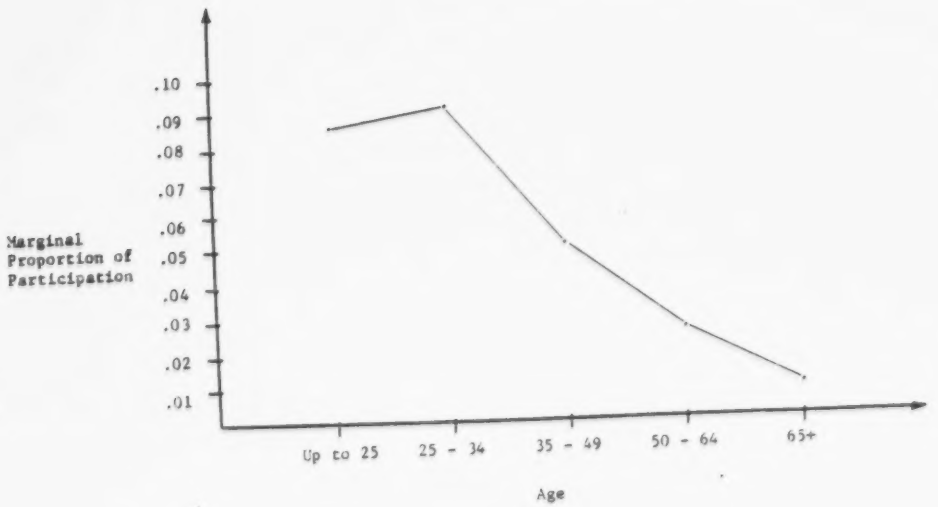
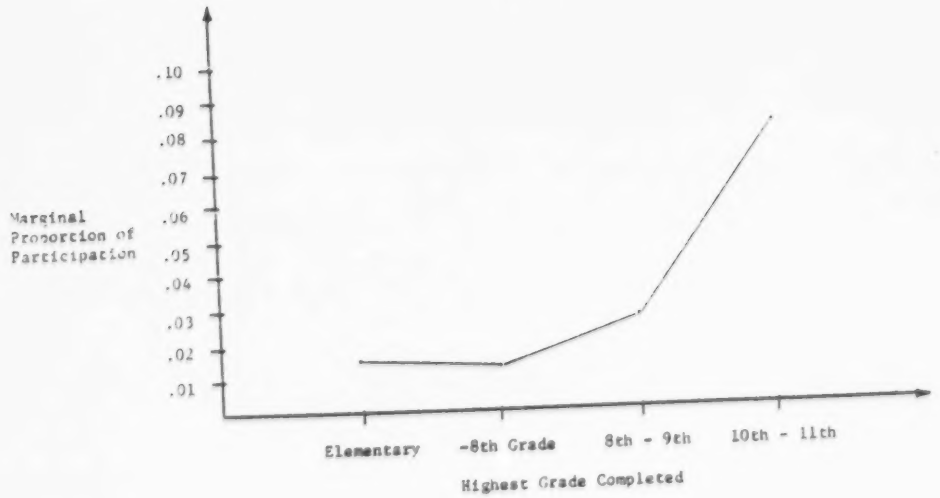




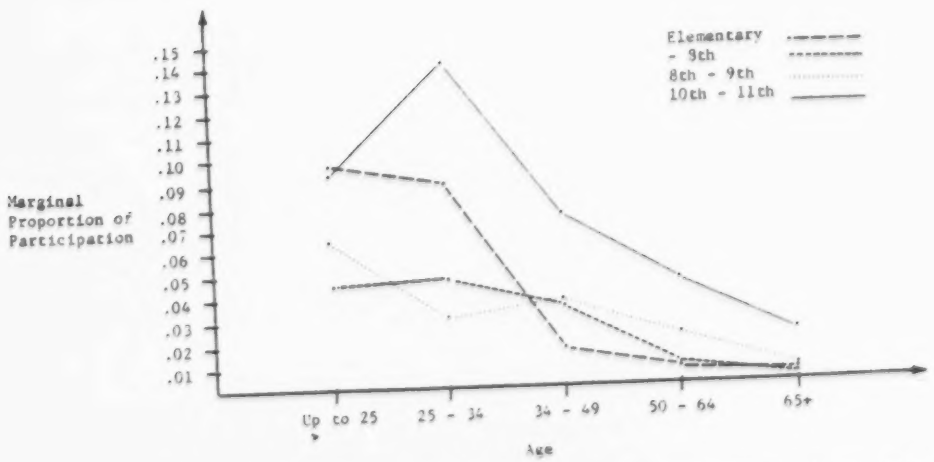
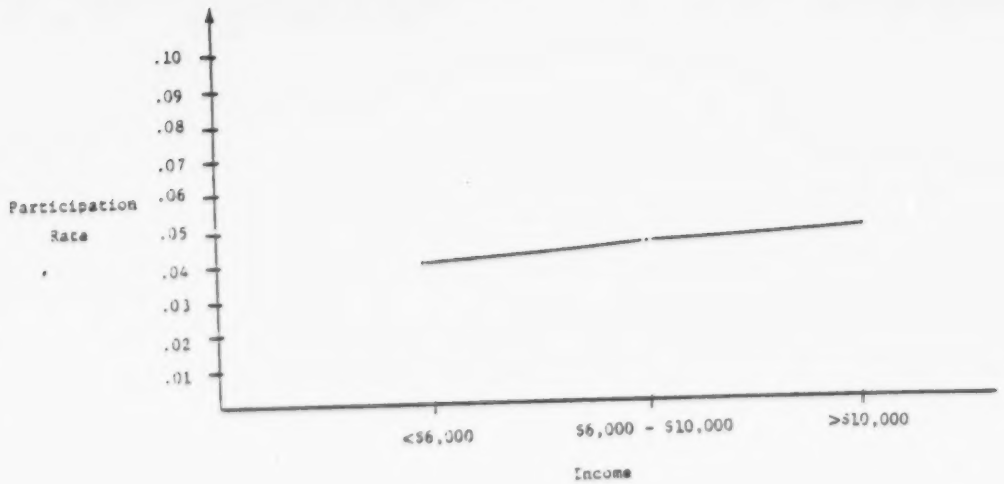


Figure A.2 Marginal proportion of adults with less than a 12th grade education participating in adult education in 1975, as a function of age and education level.

Note: The marginal proportions differ slightly from the "participation rates." Unlike participation rates, variation in the actual marginal proportions may be confounded by correlated factors in the population (e.g., the average education level of the oldest cohorts is less than that of other cohorts, so the marginal variations shown in this table are ambiguous).



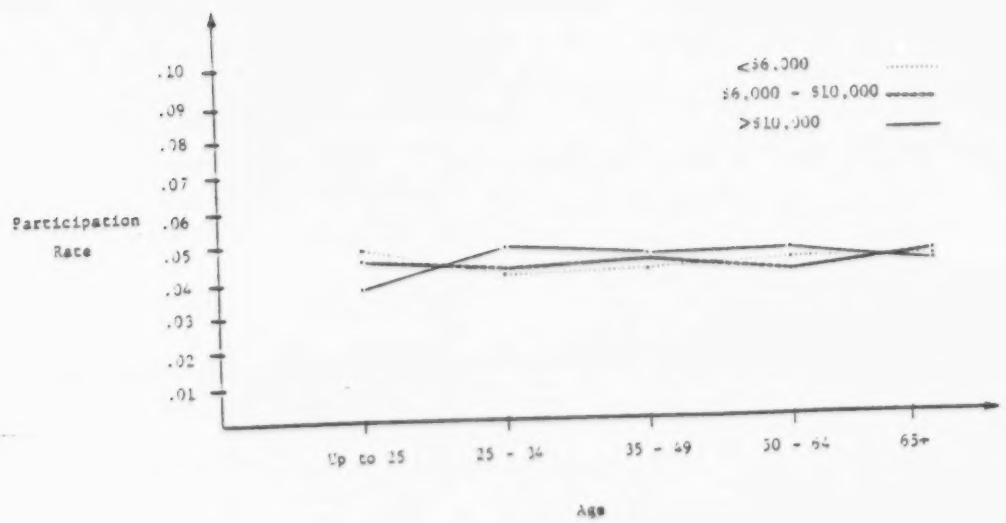
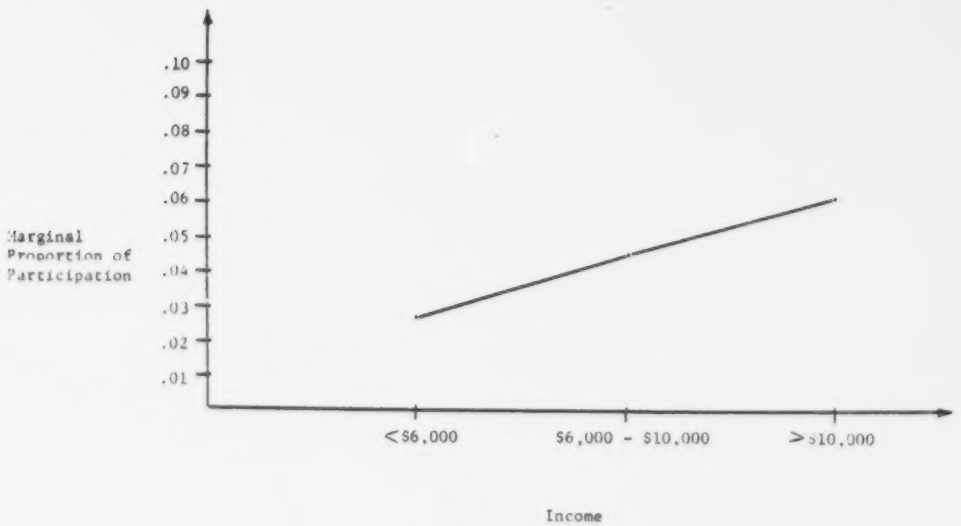


Figure A.3 Participation rates of adults with less than a 12th grade education in 1975 as a function of age and income. (Based on BMDP3F parameter estimates). The rates shown for the combined breakdown of age and income level (second graph) are residual differences, after main effects of age and income level have been considered.



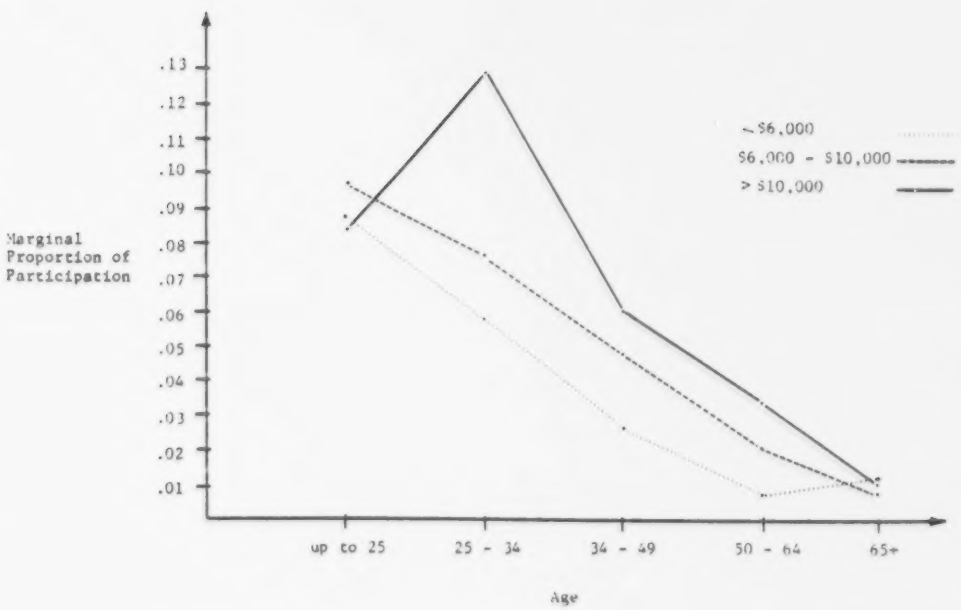


Figure A.4 Marginal proportion of adults with less than a 12th grade education participationg in adult education in 1975, as a function of age and income.

APPENDIX B

Question Items in the Current Population Survey Used for Selecting Persons Considered to be Participants in Adult Education

Items from the 1975 PAE

57. INTERVIEWER CHECK ITEM

How old is this person?

16 or under ○ *(End questions)*
17 or over ○ *(Ask 58)*

58. Is . . . now attending or enrolled full-time in a high school or college?

Yes ○
No ○

59. Now I would like to ask some questions about . . .'s participation in adult education activities, such as instruction in auto mechanics, bridge, internal medicine, electronics, real estate, etc.

(Besides full-time attendance in high school or college) During the past 12 months, that is, since May 1 a year ago has . . .

(Ask and mark each category)

a. Taken part as a student in any adult or continuing education activities in any public or private school?

Yes ○
No ○

b. Taken part-time or noncredit work through a college, university, technical institute, or cooperative extension service?

Yes ○
No ○

c. Taken any occupational or work related educational activities or job training classes?

Yes ○
No ○

d. Taken a course by correspondence, television, radio, or newspaper?

Yes ○
No ○

e. Taken part in any educational activities in a neighborhood center, church, labor organization, or other community group?

Yes ○
No ○

f. Taken any private instructions or tutoring?

Yes ○
No ○

g. Taken any other organized educational activities or courses during the past 12 months?
(Not including self education)

Yes ○ *(Describe)*

No ○

60. INTERVIEWER CHECK ITEM

"Yes" marked in any part of 59a–g ○ *(Fill or leave Adult Education form, CPS-643)*

"No" marked in all parts of 59a–g ○ *(End questions)*

Items from the 1978 PAE

58. INTERVIEWER CHECK ITEM

How old is this person?

14 or 15 ○ *(End questions)*
16 or over ○ *(Ask 59)*

59. Is . . . now attending or enrolled full-time in regular school, that is, in elementary, junior high, or high school, or in a college degree program, (such as, an Associate of Arts, Bachelor's, Master's or Doctoral degree program)?

Yes ○ No ○ DK ○

60. Now I would like to ask some questions about . . .'s participation in adult education activities. *(Read or show definition and list of examples on back cover of form CPS-643)*

Besides full-time attendance in a regular school, during the past 12 months (that is, since May 1 a year ago) has . . . *(Ask and mark each category)*

a. Taken any adult or continuing education or noncredit courses or activities?

Yes ○ No ○ DK ○

b. Taken any courses for credit as a part-time student in high school, college, or other school?

Yes ○ No ○ DK ○

c. Taken courses as a full-time student in a vocational or occupational program?

Yes ○ No ○ DK ○

d. Taken a course by correspondence, television, radio, or newspaper, or taken any private instruction or tutoring?

Yes ○ No ○ DK ○

e. Taken any courses or educational activities given by an employer, a labor organization, a neighborhood center, a church, or other community group?

Yes ○ No ○ DK ○

f. Taken any instruction for adults who have not finished high school?

Yes ○ No ○ DK ○

g. Taken any other organized educational activities or courses during the past 12 months?
(Not including self education)

Yes ○ *(Describe)*

No ○
DK ○

61. INTERVIEWER CHECK ITEM

Who reported items 59–60 for this person?

Self ○
Other ○ *(Fill 63)*

62. INTERVIEWER CHECK ITEM

"No" marked in all parts of 60a–g . . ○ *(End questions)*

"Yes" or "DK" marked in any part of 60a–g ○ *(Fill CPS-643 after the interview)*

IF THIS IS THE LAST PERSON 14 YEARS OF AGE IN THE HOUSEHOLD, FILL, LEAVE, OR MAIL AN ADULT EDUCATION FORM CPS-643 FOR EACH PERSON WITH AN ENTRY IN THE SECOND CIRCLE OF ITEM 63.

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REFERENCES

Anderson, R.E. & Darkenwald, G.G. Participation and persistence in American adult education. New York: College Entrance Examination Board, 1979.

Boaz, R.L. Participation in adult education: Final report, 1975. Washington, D.C.: U.S. Government Printing Office, 1978.

Brooks, C.A. & Bailar, B.A. An error profile; Employment as measured by the Current Population Survey. (Office of Federal Statistical Policy and Standards, Statistical Policy Working Paper 3). Washington, D.C. U. S. Department of Commerce, 1978.

De Sanctis, V. The adult basic education legislation: 1964-1979. Adult Literacy and Basic Education, 1980, 3, 245-253.

Dixon, W. & Brown, M. (Eds.) BMDP-79 biomedical computer programs: P-Series. Los Angeles: University of California Press, 1979.

Flanagan, J.C., & Russ-Eft, D. An empirical study to aid in formulating educational goals: A followup of 1,000 Project TALENT participants. Palo Alto, CA: American Institutes for Research, 1975.

Flanagan, J.C. Identifying opportunities for improving the quality of life of older age groups. Palo Alto, CA: American Institutes for Research, 1978.

Freire, P. Pedagogy of the oppressed. New York: Herder and Herder, 1970.

Garner, W.R. Uncertainty and structure as psychological concepts. New York: Wiley, 1962.

Goodman, L. Analysis of multiple contingency tables: Stepwise procedures and direct estimation methods for building models. Technometrics, 1971, 13, 33-71.

Haberman, S.J. Guided and unguided methods for selection of models for a set of T multidimensional contingency tables. Journal of the American Statistical Association, 1973, 68, 165-175.

Haberman, S.J. Analysis of qualitative data. (Vol. 1 & 2). New York: Academic Press, 1978

Hanson, R.H. The Current Population Survey: Design and methodology. (U.S. Bureau of the Census Technical Paper No. 40). Washington, D.C: U.S. Government Printing Office, 1978.

Harmon, D. Illiteracy: An overview. Harvard Educational Review, 1970, 40.

National Advisory Council on Adult Education. An assessment of the Federal Adult Education Act programs. Washington, D.C.: U.S. Government Printing Office, 1978.

Northcutt, N. Adult functional competency: A summary. Austin: University of Texas, 1977.

Okes, I. Participation in adult education: Final report, 1969 (OE 75-165). Washington, D.C.: U. S. Government Printing Office, 1974.

Okes, I. Participation in adult education: Final report, 1972 (OE 76-160) Washington, D.C.: U.S. Government Printing Office, 1976.

Russ-Eft, D.F., Rubin, D.P., Description of data bases on adult education. Palo Alto, CA.: American Institutes for Research, 1980.

Russ-Eft, D.F., Rubin, D.P., & Holmen, R.E. Identification of issues in adult education (SAGE Technical Report 1). Palo Alto, CA: American Institutes for Research, 1979. [Note: a more extensive version appears in a book with the same title and authors published by Garland Publishers in New York dated 1981].